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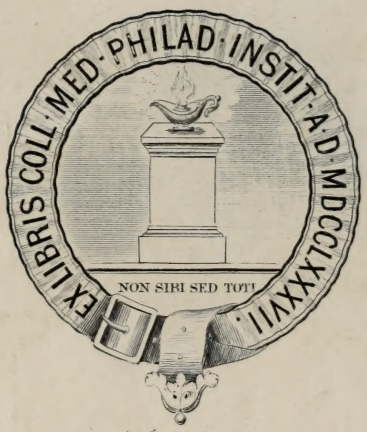

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THE

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VOLUME L.

JANUARY TO JUNE, 1885.

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THE CHICAGO

MEDICAL JOURNAL AND EXAMINER.

VOL. L. JANUARY, 1885. No. 1.

ORIGINAL COMMUNICATIONS.

A CASE OF MURAL PREGNANCY.

By WILLIAM H. BYFORD, *M. D., Professor of Gynecology, Rush Medical College, Chicago.*

[*Read before the Chicago Gynecological Society, Dec. 19th,* 1884.]

The history of this case is so obscure on account of the ignorance of the patient as to make it almost valueless. In substance she gave it about as follows:

She was twenty-eight years of age, had been married seven years, and had one child, now six years old. She supposed she became pregnant again in February, 1883. In April she was very much fatigued and had hemorrhage, which continued until May 9th—about four weeks. After that she had no hemorrhage until October 14th.

At that time there occurred a discharge of yellow fluid, which she estimated at about one gallon in quantity. This was followed by a putrescent sero-sanguineous discharge for about three months. In January, 1884, a large brownish mass with very fœtid odor came away. Soon after this, the menses were re-established and continued until July. In May, she was quite large, and had bearing down pains. She had no pain after July.

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She entered the hospital October 6th, 1884. October 18th, she was tapped, and about four quarts of thick, tenacious fluid, strongly resembling such as we often draw from an ovarian tumor. It coagulated on the addition of nitric acid and on boiling.

I made a microscopic examination of this fluid, assisted by Dr. Tilley, but could not derive any definite information from it. It did not contain the Drysdale cell.

Laparotomy was performed, the fœtus and placenta removed without any difficulty or considerable hemorrhage.

In order to make a cavity that might be drained well, it was considered best to remove the uterus, as the specimen will show.

The operation was done October 13th, and the patient did not rally, but died in about twenty-four hours.

The patient before the operation was greatly reduced in strength on account of her protracted suffering.

If I had been as well informed on the subject of this kind of pregnancy, as I was after this observation, I would have operated through the vagina, instead of performing laparotomy.

This is the second case of mural pregnancy, I have seen within about five years. The first case was reported to this society, a résumé of which is as follows:

The patient was in labor and was moribund when I first saw her. She had been in labor until exhausted. There was no difficulty in making a diagnosis. The head was low down in the pelvis, almost on the perineum. The os uteri was well-nigh inaccessable behind and above the symphysis pubis. The body of the uterus could be felt, somewhat larger than natural, in the lower and anterior part of the abdomen, attached to the tumor containing the fœtus. The fœtus could be felt through

the abdominal walls, surrounded by a thick involucrum, apparently as thick as the uterine walls.

The limbs and other portions of it were distinguishable.

When dissected, the sac in which the fœtus and membranes were contained, consisting of the amnion and chorion with the liquor amnii, was found to be formed of a thick layer of large muscular fibers. These latter were continuous with the fibers of the posterior wall of the uterus, and extended upward, downward and laterally, invading the whole of the wall of the sac in every direction. These fibers resembled in every way those found in the pregnant uterus at full term. The enveloping fibrous structure was much thinner than the walls of the uterus, and the fœtus could be indistinctly seen as it lay enclosed in it and its proper membranes. The Fallopian tubes and ovaries lay beside the lower portion of the sac. The posterior wall of the uterus formed a part of the anterior wall of the containing cavity. As viewed before and during the section, it gave one the idea that the sac, containing the fœtus, had been developed by the growth of a detached layer of the muscular fibers of the posterior wall of the uterus; and that is what I think was the fact, and might be explained in the following manner: the fructified ovum had made its way down the tube to the intramural portion, when it was arrested, but continued to grow, and, as it grew, it produced upon the uterine structures the same trophic influences, that it would have done, had it been contained in the natural cavity. When this process was begun, it was continued by the wonderful energies of development, which takes place in the uterus and could occur nowhere else in the body. It was, in fact, an ectopic, *uterine* pregnancy. I do not believe there was any structural violence done at the seat of development in the sense of tearing away the layer of fibers in which it grew. But the ovum,

having insinuated itself beneath the outer layer of muscular fibers, they grew sufficiently to make the large cavity containing the ovum. The fœtus was thus developed within the uterus, although not in the uterine cavity, and, because of this, the pregnancy more nearly resembled normal gestation than any other form of ectopic pregnancy.

The resemblance is especial in the position and presentation of the fœtus, at term deep in the pelvic cavity behind the vagina. The head in this case was fixed by the concentric contraction of the uterine fibers, by which it was surrounded, and could be easily outlined as it lay there crowded behind the posterior vaginal wall.

The specimen here presented is much less perfect than the one described, because of the numerous effects wrought upon it by the great length of time in which retrograde changes had been going on and the mutilations produced by our efforts at its removal. It is, however, sufficiently so to enable you to trace nearly all the conditions presented by the other.

The changes alluded to greatly obscured the nature of the case and made our diagnosis doubtful. The walls were thickened and indurated; the fluid contained in the sac was viscid and contained much albuminoid material, rendering it impossible to distinguish the shape or even presence of the fœtus. We believed it to be an extrauterine pregnancy, but could not demonstrate the fact without incision, and it was not until the whole was removed that we could determine the character of the pregnancy.

The treatment of these cases ought to be considered apart from that of extrauterine pregnancy, especially at term. It is always a matter of special consideration, in connection with each case as it presents itself, whether the removal of the fœtus at term in extrauterine gestation should be attempted;

whether laparotomy for the delivery does not subject the patient to greater hazard than to leave her to the reparative process immediately instituted for her preservation.

The dangers of laparotomy are greatly increased by our inability to remove the placenta. The surface to which it is attached has no contractile power, so that the divided vessels are left patent. If hemorrhage does not immediately prove fatal, the blood is a source of sepsis that must almost certainly destroy the patient.

In passing, I might say that I believe laparotomy would more likely be successful, if performed some days after the death of the child. My reason for advising the postponement of the operation is that when the circulation in the placenta ceases, the blood-vessels collapse, do not contain blood, and the danger in separating the placenta, for its removal, would be reduced to a minimum.

In the cases of ectopic or interstitial uterine pregnancy, the fœtus may, I think, be easily removed through the vagina. An incision made through the posterior vaginal wall would completely uncover the presenting part and enable us to apply the forceps, or attack it with the perforator and crotchet, as in ordinary labor. After the removal of the fœtus, the placenta should be allowed to separate spontaneously. It might then be taken from the cavity without any special danger.

I arrive at this latter conclusion from the reflection that that organ is attached to a fibrous base, capable of contraction. It is, in fact, a base of uterine muscle. Another fact, of great value in this connection, is that the cavity thus opened does not communicate with the peritoneum, and consequently may be thoroughly drained and disinfected by washes through the vaginal opening made for the delivery of the fœtus.

Although I have not had a suitable opportunity to put my

ideas upon the subject in practice, I would unhesitatingly do so as affording the most plausible method of giving the patient a chance for her life.

Since writing the above, I have seen a case very imperfectly reported in the "*Annales de Gynecologie*" for July, 1884. It occurred in the practice of Mr. Matheson, of England, which seems to me to have been the execution the plan of delivery here indicated.

Mr. Matheson reported the case to the London Obstetrical Society.

The article is headed: "Extrauterine Pregnancy. The Extraction of a Living Fœtus through the Vagina."

The head was in the pelvis, covered by the greatly distended posterior wall of the vagina. An incision was made upon it, and the face was made to present. The forceps was applied, and the extraction was effected without difficulty.

The child was in a state of suspended animation, but upon the application of restorative measures, was resuscitated. It weighed nine pounds. The placenta came away without dangerous hemorrhage, and, while it did not seem necessary, a sponge wet with the perchloride of iron was introduced into the cavity.

The patient recovered without any alarming symptoms.

It would not seem that the author suspected his case to be one of interstitial pregnancy. During the discussion, that followed, only one of those, who participated in it, expressed the opinion that it was one of that kind.

Mr. Griffith thought it was either interstitial pregnancy, or one, in which the fœtus was developed in one portion of a double uterus.

I have made no attempt to look up the literature of this form of ectopic pregnancy. My object has been to give as

concise a description of its anatomy as was consistent with accuracy, and submit my reflections upon the nature and treatment of it.

[The cut, illustrating Professor Byford's first case, will appear in our next issue, in connection with the report of the Pathologist, Professor Christian Fenger, M. D.—ED.]

ARTICLE II.

PSORIASIS. *A Clinic at the College of Physicians and Surgeons of Chicago. By* HENRY J. REYNOLDS, M. D., *Professor of Dermatology.*

This man, aged 40, otherwise healthy, comes to us with a history of having had an eruption on his body for twenty-two years. He exposes an arm, and we find the eruption most marked upon the back or external surface, particularly so at or near the olecranon. The first striking thing, we observe about it, is its peculiar dryness, and its scaly condition. Upon scratching these scaly patches a little, we find that they assume a white, shiny, silvery appearance. Now, this of itself always suggests psoriasis. I think there is no other disease of the skin that gives just this character of scales, and when once familiar with the appearance of which, a diagnosis of psoriasis might almost be based upon this one symptom alone.

But while this of itself might be sufficient to bet on, it would be a very bad rule to follow, for we have other characteristics that are fully as valuable diagnostic points as this, and while any one of them alone might be sufficient to satisfy the mind of the physician, a combination of all is better and is the proper rule to follow in making a diagnosis of anything. Do not base the diagnosis upon one well marked symptom alone, but, hur

riedly at least, run over the combination before committing yourself. Well, we now find upon removing the scaly patch, that we have what would scarcely have been expected from the mild, inactive appearance of the parts before this removal, a very red patch, and in this red patch we notice small pin-head-sized droplets of blood oozing out. Now this of itself again is almost pathognomonic of psoriasis. We further notice that the patches are round, not elevated, with well defined margins, and that the skin between them is perfectly normal. Now you will recollect that I have told you that you should always have an accurate knowledge of the condition of the skin of the entire body in diagnosticating skin affections, either from the statement of the patient or from personal examination (very preferably the latter). We find here and there, all over the body, the eruption more or less symmetrically distributed, with, however, a preference for the extensor surfaces. The patient states that he is generally freer from the disease in the summer than in the winter, and that it gives rise to no itching or other subjective sensation of any consequence. These symptoms are also characteristic of psoriasis. Now from the combination of symptoms just considered, viz.: the white, shiny scales, the dry character of the eruption, the round, isolated, red, bleeding patch on removal of the scales, its involving the entire body more or less, its preference for the extensor surfaces. its tendency to disappear in the warm and return in the cold weather, and the absence of itching, which embraces almost everything that is characteristic of the disease, we may with absolute positiveness render a diagnosis of psoriasis. Now some of these lesions on the trunk, from destruction of the scales by frequent washing and previous treatment, resemble the lesions of the macular syphiloderm, and he indeed states that he has been treated for secondary

syphilis; but, if the man had syphilis half a dozen times, (which would be impossible) we know from the combination of symptoms in the case that he has psoriasis nevertheless; besides, he gives no syphilitic history, nor any of the numerous syphilitic symptoms more than that just referred to.

The eruption can very speedily be cleared up by appropriate treatment, but the great trouble in this disease is its tendency to return. We will first, for the purpose of getting rid of the scales, apply carbolized ointment twice a day for two days, then the entire body will be bathed in hot water with plenty of soap and friction. The same ointment will again be applied for two more days and followed by the same bathing process. We will then have a chrysarobin ointment, of grs. xx to Ung. Aquæ Rosæ ℥i, applied twice a day to every individual lesion on the body. The chrysarobin should be suspended and the former process substituted about every week or ten days. Arsenic may also be given internally in this disease, beginning with about five drops of Fowler's solution, three times a day, and gradually increasing as indicated by the effects.

For the prevention of the return of the disease frequent bathing with hot water and green soap, and measures which tend to keep the skin active, are indicated.

2200 Michigan ave.

ARTICLE III.

IS PICRIC ACID A RELIABLE AND PRACTICAL TEST FOR ALBUMINURIA? *By* FRANK CARY, M. D., *Chicago.*

As this test seems still before the profession—judging from the articles that from time to time appear in the different magazines, as a rule, eulogizing it—I beg leave in this JOURNAL to express my convictions concerning its utility for the general

practitioner. Last year, while experimenting with the test, I noticed an allusion, in this JOURNAL to the "New Test for Albumen," proposed by Dr. Johnson. This "new test" consists in floating on the surface of a clear urine—which, we are instructed, must be neutral or slightly acid, but which may, I think, be alkaline as well—a saturated aqueous solution of picric acid. This, having a specific gravity of about 1003, can, with care, be floated on the urine without the two liquids becoming mixed. Should there be albumen present, a pale opalescent line will appear at the junction of the two liquids, as in Heller's test. This picric acid test, that has caused no little discussion, is no "New Test." It is spoken of in Quain's Medical Dictionary as a confirmatory test, and has been in use at the Westminster Hospital for the past eight or nine years.* One of the principal advantages claimed is its superior delicacy over the heat and nitric acid tests.

Dr. George Oliver,† who places the nitric acid test below that of acidulated brine, and above all in point of delicacy, the picric acid, mercuric iodide, and his own test papers, states that "the mercuric salts are said to cause a quasi albuminous precipitate in the urine of patients taking alkaloid," but that he is not "convinced of the correctness of this assertion." Though he found by using the mercuric iodide test, albumen present in all the patients, he mentions as taking alkaloids, he says: "The same reaction followed the use of picric acid"—here seeming to assume that picric acid would not precipitate alkaloids in solution.

In twenty cases reported by him he states that he failed to detect albumen in sixteen with cold nitric acid (Heller's test), fourteen with heat and acid, while with picric acid, and potas-

* Lancet, May 19, 1883, p. 886.

† Lancet, January, 1883.

sic mercuric iodide he obtained a "distinct and generally a sharply defined ring of precipitated albumen in every case." My results with picric acid have been similar to the above-mentioned twenty cases. Holding a test tube at an angle of about 45° and allowing the solution to flow slowly down its side, one is able to float the acid on the surface of the urine with the least possible admixture, and in an examination of some sixty specimens from persons in apparent health—more than half being students attending Bellevue—I was able in every instance—great care being exercised to keep the two liquids separate—to detect a more or less distinctly marked opalescent line. From accumulated evidence, there can now be no doubt entertained as to the various alkaloids—quinine, aconite, pilocarpine, etc., causing a marked precipitate in the urine of patients taking these drugs in any quantities—and urates when in excess, as well as peptones, are also precipitated, producing the pale line. Some who favor the test suggest that if the precipitate be thought to come from urates, the microscope could be called in to settle the question, if from alkaloids, the addition of a little alcohol, nitric acid, or gentle application of heat. Any of these procedures require time, and in our manipulations we are likely to destroy the line of contact between the liquids.

Suppose, on examining a specimen, you detect a faint line just where the acid and urine meet, you are in doubt as to just what produces it, whether it is coagulated albumen, or precipitated alkaloid. You resort to heat, and with what result? The line disappeared just before the boiling point was reached, but you are in doubt as to whether it was "cleared up" or dissipated by the mixing of the two liquids. Can heat be applied to two liquids in a test tube and they not be more or less mixed? As the particles near the source of heat become heated

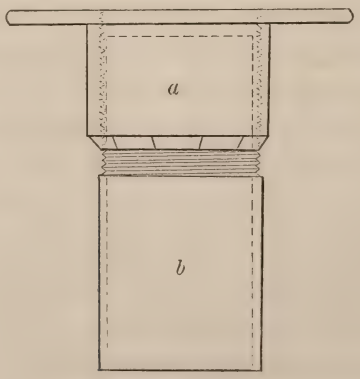
they must of necessity rise, their places being taken by the cooler particles from below, and in this way will the line be broken up and lost. Dr. Robert Kirk, who has used this test for some time, states* that unless it be used as Heller's test, *i. e.*, keeping the two liquids separate, it is "valueless." Though I do not say the test has no value—believing it has—I am, nevertheless, convinced that it has so many drawbacks as an "every-day test," that, for the general practitioner, it is worse than valueless, being liable to give results which can hardly fail of producing errors in diagnosis.

3027 Indiana avenue.

ARTICLE IV.

A SIMPLE MICROTOME. *By* C. C. WEBSTER, M. D.

Several years ago, Mr. O. B. Marsh, of Binghampton, N.Y., made, at my suggestion, the herein described instrument. I have found it very useful, particularly in cutting sections of malignant growths for diagnosis. The frequent necessity for such an instrument leads me to publish the description, with



a. Nut.
b. Hollow Screw.

*London Lancet, April, 1883.

the hope that the reader, if he choose to make a duplicate, will find it as serviceable to him as the original has been to me. The proportions, given in the cut, are nearly the same as those of my instrument, but exact measurements are unimportant, as several professional acquaintances have made different sizes without materially affecting its usefulness.

There are two parts to the microtome. It is a hollow screw, in which the object is to be embedded. It is either to be packed in with cork, liver or some suitable material, imbedded in soap, paraffine, etc., or it may be mounted on cork with mucilage and then hardened. When in the cut, the cork can be slipped into the tube. However the object may be arranged, the portion to be cut must project above the upper end of the tube.

The nut *a* is provided with a broad flat top, which serves as the surface for guiding the razor. This top may be faced with plate glass, and for convenience its edge may be milled. The nut and screw are cut with a thread fifty to the inch. The accuracy of this thread determines the usefulness of the instrument. It should be cut in a lathe, and be as nearly perfect as possible.

In using the instrument, one or two preliminary cuts should be made to level off the top of the object, each time turning down the nut, thus causing the object to project. After the top of the object is leveled, the desired thickness for the section can be measured off by a vertical mark cut on the screw and spaces marked on the lower edge of the nut. If these spaces are tenths of the circumference, turning the nut one space will give section of one-five-hundredths of an inch. Such a section is too thick for such purposes; therefore, it will be found best to mark the nut with more spaces, or turn it some fraction of a space.

Chicago.

EDITORIAL.

THE EXTERNAL USE OF CHLOROFORM IN LABOR.

An article, entitled "External Use of Chloroform in Labor," by Dr. A. Svanberg, Sweden, translated by Dr. C. W. Johnson, Chicago, appeared in the columns of "Selections," December number, 1884, CHICAGO MEDICAL JOURNAL AND EXAMINER.

As at present informed, modern obstetrical literature contains nothing which bears directly upon this subject. The suggestion is probably of an original character.

From *a priori* reasoning, that is, from argument based upon truths already in our possession, Dr. Svanberg's conclusions are not at all improbable.

No one can deny the importance of the subject.

For these reasons, we desire to call the attention of the profession to Dr. Svanberg's method. Certainly the external use of chloroform in labor is worthy of more extensive trial and more accurate investigation.

Dr. Svanberg's method of the external use of chloroform in labor is simple.

A piece of flannel, saturated with a solution of chloroform and sweet oil, equal parts, is applied to the skin, between the umbilicus and symphysis. Light strokes over the cloth secure even distribution of the solution, and exact approximation of the fabric. The application may be renewed according to necessity. Dr. Svanberg has observed that usually, in from five

to ten minutes, the chloroform has performed its function.

The indications for the external use of chloroform in labor include a variety of conditions. In general terms, it may be said that the local application is designed to supersede the inhalation of chloroform.

Dr. Svanberg has successfully employed this method in cases of retained placenta with *tetanus uteri*, transverse presentations with rigidly contracted uterus and escape of the *liquor amnii*, and breech presentations with rigidity of the internal os. In certain of these cases, the inhalation of chloroform was not sufficient to relax the uterine contractions.

It is not unfitting, in this connection, to hear Dr. Svanberg's individual testimony as to the efficiency of the method: "Since that day, (December, 1877,) I have never used chloroform by inhalation for rigid contractions of the uterus."

PHYSICIANS' PROTECTIVE ASSOCIATION.

An eminent member of the local profession has recently suggested the formation of a "Physicians' Protective Association." The object of the association is to protect physicians from groundless charges of malpractice. It is proposed that all physicians, interested in the subject, unite in the establishment of a fund for the defense, in cases of malpractice, and the election of a board of trustees, to investigate individual cases, decide on their merits, and secure counsel. This matter is one of interest to every active medical practitioner, and no apology is demanded for calling the attention of the profession to the scheme before it has assumed definite proportions.

The advantages of such an association are obvious. The effect upon the community would be of the most salutary character. We have in Chicago all the conditions for the produc-

tion of malpractice suits. It is scarely necessary to direct attention to our large pauper population, native and foreign, the frequent occurrence of all forms of accidents,—in connection with the fabulous number of railroads that center in the city, and the numerous manufacturing industries,—the crowded state of the legal profession. Within the past twelve months, ten or twelve suits for alleged malpractice have been instituted against as many reputable physicians by pauper patients, backed by irresponsible legal advisers. Not one charge was sustained. The physician, however, has in each case lost time and money, while his professional reputation has suffered from newspaper notoriety. It is an alarming fact that there is not a physician in Chicago, of such eminence, as to preclude the possibility of indictment for malpractice, at the instigation of a dispensary patient! An organization, of the nature indicated, would render irresponsible representatives of the legal profession less eager to share the "spoils" with pauper patients.

Such an association would have a favorable influence upon the profession. Medical gentlemen would be more charitable and truthful in their criticisms of the treatment of cases, in regard to which, they possessed no accurate information.

Many of the recent malpractice suits in Chicago have been instigated by the careless word of a brother practitioner, who had absolutely no knowledge as to the conditions of the case. When moral considerations do not restrain one practitioner from criticizing the treatment of a brother, the laws of the land render it criminal for him to utter a falsehood.

NEWS ITEMS.

ILLINOIS PHYSICIANS—REGISTER OF PRACTITIONERS HOLDING CERTIFICATES ISSUED BY THE STATE BOARD OF HEALTH.

The Revised Official Register of physicians and midwives in practice in the State is issued in a volume of 324 pages. It contains the Medical-Practice act, and the State Board of Health account; a section on practitioners and mode of procedure under the Medical-Practice act, an official register of physicians, resident and non-resident, a list of revoked certificates, the necrological record of the year, a directory of the medical societies in the State, an official register of midwives, and an addenda bringing the record up to Dec. 1, inst.

The Register embraces the names, post-office addresses, and other data necessary for the purpose of identification of 5,585 physicians to whom certificates have been issued by the Board of Health under the act approved May 29, 1877, and who comprise the majority of those engaged in medical practice in the State. To this number are to be added 300 practitioners who are exempt from the provisions of the act by reason of having practiced ten years in the State prior to July 1, 1877, so that the whole number of practitioners in the State at the close of this year is 5,885. Of the 5,585 certificated practitioners there are 4,780 who hold certificates from the board based upon satisfactory proof of having received diplomas or licenses from legally-chartered medical institutions in good standing; 102 others are practicing under the certificates of the board

issued after satisfactory examination; and the remaining 703 are non-graduates who have taken out certificates based on years of practice, although not required so to do by law. A number of the 4,780 are also exempt by reason of length of practice before the passage of the act, but have obtained certificates from the board for the purpose of establishing their professional status.

In the first Register, published in June, 1880, there were the names of 5,979 physicians, and in the second, published in December, 1881, 5,987, so that the number of those engaged in medical practice during the last four years shows a slight absolute reduction notwithstanding the increase of population. There has been a gain of 498 graduates and licentiates of medical institutions, these now forming 80 per cent. of the total number, as against 70 per cent. in 1880. The number of licentiates upon examination of the State Board has diminished nearly one-half, chiefly through attendance upon lectures and obtaining diplomas.

During the seven years of its existence, up to the 1st of the present month, the board has issued 8,091 certificates to physicians. Diplomas or licenses have been presented by those now in practice in the State, from 138 medical colleges and licensing bodies in the United States, from ten in Canada, fourteen in Great Britain, thirty-four in Europe, and one each in Africa and South America, making a total of 198. Since the close of the session of 1883, at which time the minimum requirements went into effect, the diplomas of twenty-one colleges in eight different States have been accepted only after an examination of those presenting them in the branches or subjects of the schedule omitted by the respective colleges.

DR. S. V. CLEVENGER, well known to our readers as a contributor to these columns, has resigned his position as Pathologist of the Cook County Insane Hospital, and has opened an office for practice in this city, where he proposes to devote his time exclusively to his favorite department in medicine.

The Second Annual Meeting of the Ohio State Sanitary Association will be held in Columbus, Ohio, February 5th and 6th, 1885. Programme, containing full information as to papers, session, and railroad rates, will be furnished on application to the Secretary,

R. HARVEY REED, M. D.,
Mansfield, Ohio.

BOOK REVIEWS.

A PRACTICAL TREATISE ON DISEASE IN CHILDREN. *By* EUSTACE SMITH, M. D., F. R. C. P., *Physician to His Majesty the King of the Belgians, Physician to the East London Children's Hospital, and to the Victoria Park Hospital for Diseases of the Chest. Large 8vo., pp. 884. New York:* WILLIAM WOOD & CO., *Publishers.*

Truly in the words of Solomon: "Of the making of many books there is no end." This is particularly pertinent of medical books. Practitioners and students of medicine are actually overwhelmed with announcements of new works, each of which is recommended as the best of its kind. Yet, if one be unwary enough to invest in one of these highly lauded works, he will find, in the majority of cases, that it presents nothing new, nothing original, and is in no respect superior to some other work that has made a valuable part of his library for years; and it ends with his relegating this latest addition to the shelves of his book-case, there to remain, while the old standby is thumbed with ever-increasing respect and fondness. We sincerely deplore this redundancy of medical books of no really superior merits. Our pleasure is therefore the keener when we chance upon a work, of the substantiability and worth of this, whose title heads this notice. That this treatise was greatly needed, when we already possessed works upon diseases of children of such solidity as those of Meigs and Pep-

per, of Philadelphia, and J. Lewis Smith, of New York, is an open question, but that this contribution of an English practitioner of wide experience, now that it has once appeared among us, will find many readers, give great satisfaction and be laid down only to be frequently reconsulted, is an assertion which will find ready confirmation, we think, in the experience of its possessors. The binding, paper and print are good, and we are especially glad to note an unusual absence of typographical errors. Those we observed are, for the most part, such as will not confuse the reader. On page 92 occurs the statement: "The heart, although itself showing no signs of disease, may have its right ventricle filled with a colorless ante-mortem clot which extends into the ventricle." It is evident that the word "ventricle" which ends the sentence should read auricle. On page 544 mention is made of "Dr. Samson," which doubtless is a transposition of the well known name of Dr. Sanson. The author's style is clear, forcible and for the most part free from tautology. He repeats himself occasionally in enumerating symptoms, but the impression left upon the reader is of a concise handling of the subject without, however, sacrificing such details as render a work complete and interesting. As stated in the preface, the aim of the treatise is to present disease as manifested in children, in a practical manner, and to embody whatever useful hints the author has derived from extended experience in the management of patients of tender years. In this Dr. Smith has been successful. His treatment of children consists mainly in a wise regulation of diet and hygiene, with the administration of as few drugs as possible. When medicinal remedies are resorted to, they are employed upon the same principles as govern their uses in adults. No special chapter is devoted to the consideration of diet, clothing, etc., of infants and young children, but these matters are discussed in

the treatment of the individual diseases with a view to whatever modifications of the same may be advisable. He is uncompromising in his antagonism to farinaceous and saccharine articles of food except in very moderate amounts. He considers syrups so deleterious by reason of their likelihood to ferment in the child's stomach, that he employs glycerine instead. He is very partial to the cold douche as a stimulant measure. His therapy is eminently rational, and he does not appear to ride any particular hobby. We cannot point to any line of medicinal treatment that is distinctive or original, yet this department of the work abounds with practical suggestions. The author has taken special pains with the diagnosis of disease, and the reader will find this part clear and to the point. Symptoms are detailed faithfully and understandingly, without such a wearisome mass of unimportant *minutiæ* as some clinical tenchers appear to delight in. The author also expresses himself with much caution and scientific discrimination in dealing with the causation of diseases where definite etiological factors have not been demonstrated. Thus, while admitting chorea to be of influence in the etiology of many cases of endocarditis, he, nevertheless, does not go as far as some of his countrymen, but ranks rheumatism and scarlatina as a much more frequent cause of heart troubles. What is said upon the morbid anatomy of the various diseases is excellent as far as it goes; but we think the author has made an error in considering this portion of his subject quite so briefly. It might have been rather more extended without any risk of wearying the reader already conversant with the subject. We note that he sides with those pathologists who regard membranous croup as diphtheritic laryngitis. He says, page 95: "In my own experience I can not recall to mind a single case of membranous laryngitis in which some evidence of false membrane in other parts was not

obtained. In most cases there was also exudation in the fauces. In a few the membrane had spread down the trachea and the fauces were free; but even in these cases patches of exudation were usually found on examination after death, at the back of the nares."

"Although many statements are made with a positiveness born of experience, the work is free from offensive dogmatism, and recognition of the opinions of others is shown liberally. The author's intimate acquaintance with the literature of the subject is unmistakable. We think we speak advisably when we make the statement that this work will rank among the classical productions of the English language in this department, and we heartily recommend it to the careful perusal of practitioners of medicine generally.

ROBERT H. BABCOCK, M. D.

FOREIGN CORRESPONDENCE.

UNIVERSITY OF ABERDEEN, SCOTLAND.

My Dear Editor:—Possibly a few stray notes of observation during my sojourn in the Old World may interest some of your many readers. If, therefore, you do not find your space too much crowded to admit of foreign gossip, I shall be glad during my somewhat extended absence to let you hear from me, as time and opportunity may permit.

Leaving the quaint old city of Quebec, Nov. 15th, clothed in snow and ice, the prospect of a northern voyage across the Atlantic was not an interesting one; yet, somewhat singular for the season, the voyage proved a most charming one, *i. e.*, for the most part clear sky, balmy atmosphere, and remarkably smooth sea. The morning of Nov. 24th found us at the mouth of the Mersey, and as we steamed up its heavy organically-charged waters, I was instinctively reminded of Chicago river. I believe it was Shakspeare who in speaking of the Mersey said, "It is that kind of mercy which is not filtered." Let us hope, however, that the future may reveal a difference in this respect in the two distinguished rivers just named, and that those whose business it shall be in our State to deal with questions of public policy may enact that the Chicago river may at least be drained (if not filtered) "pro bono publico."

Of course every one on landing at Liverpool first runs "up

to London," though just why it should be "up" I have not yet satisfied myself. I, therefore, in four and a half hours after landing found myself in the *elevated* metropolis. A preliminary glance over St. Thomas' Hospital in particular and a few other points of interest occupied my stay of two days in London. As I intend to return in January and spend some three months there, I shall reserve what I may have to say of my impressions till more maturely considered.

It was during the week of my visit to London that one of the brightest and most promising lights in medical literature perhaps of the last decade went out so unexpectedly and so early: a deep loss not only to the profession of England but to the world. I refer to the death of Dr. Mahomed, of Guy's Hospital. Only about thirty-five years of age, he had not only made himself widely known through his lucid contributions to current medical literature, but he had also come to be looked upon as one of the almost necessary figures in the noted gatherings of the profession in Europe. His contributions to sphygmographic diagnosis are familiar to most of us. His contributions to the literature of renal diseases (the last, I believe, in Guy's Hospital reports) always so clear, new, and thoroughly original that I have always thought an exceptionally bright professional future was in store for him. When I say that there are few men in Europe with whom I had more pleasurable or profitable anticipations of meeting than Dr. Mahomed on my present visit, it will be more readily understood how sad a disappointment the news of his death came to me.

November 18th finds me in Aberdeen, an old granite city at the foot of the Grampian Hills, almost at the extremity of a peninsula, jutting out into the German sea. At this season of the year scarcely six of the twenty-four hours constituting the

day are favored with rays from "old Sol," and these come from a very oblique altitude; for, remember, Aberdeen is situated north of the 57th parallel (almost the same line as the south coast of Norway). The north-east wind from the German sea at this season, as it carries the chilly breath of Norseland with it, I have learned from experience, can pick out an American, as Twain said, "with its eyes shut." Snow, sleet, mists, rains and fogs are the rule, I understand, here till after May, and clear weather the exception. Added to this, the Aberdeen people do not keep their houses warm; in fact, if a fire is used it is made with Scotch coal, and often the outside door is left open a good share of the time. It is not difficult, hence, to understand the most prolific causes which renders the death-rate here so startlingly high in kidney diseases, constituting as it does one forty-ninth of the entire mortality (the highest ratio of any city in the world).

But, if Aberdeen can not boast of her climate in winter, there are yet many things which she may justly regard with pride, and among these not the least is her university, one of the oldest and most honored in the country. A week's experience in this, with the prospect of spending three more here, is my excuse for a general outline of the institution.

The University of Aberdeen derives its origin from two different foundations; one, the University and King's College of Aberdeen, founded in 1494 by William Elphinstone, Bishop of Aberdeen, under the authority of a Papal Bull obtained through the solicitation of King James IV. The other, Marischal College and University of Aberdeen, founded in 1593 by George Keith, Earl Marischal, by a charter ratified by act of Parliament. In 1858 the two institutions were united by act of Parliament, under the style and title of the "University of Aberdeen."

The University is a corporate body, consisting of a chancellor (elected for life)—present one is the Duke of Richmond—rector, principal, professors, registered graduates and alumni and matriculated students. It takes rank among the universities of Scotland, as from date of foundation of the University and King's College, 1494, two years before the discovery of our continent. Aberdeen and Glasgow Universities are the only ones in Scotland entitled to elect a member to serve in Parliament to represent them.

The University buildings, formerly of King's College, are situated in Old Aberdeen, where the classes in Faculties of Arts and Divinity are conducted. The University buildings, formerly of Marischal College, are situated on Broad street, so called (for friends could almost shake hands across it), Aberdeen, where the classes in the Faculties of Law and Medicine are conducted.

The University is sustained by annual payments from crown (grants by King William III out of Bishop's rents) and Parliamentary grants, by rents, interests, teinds, fees, duties; by revenue of trust funds, under charge of the town council of Aberdeen; by matriculation, graduation and other annual fees, and by bursary funds, in all a total annual income of 20,500 pounds sterling. A reserve fund is maintained at present of 2,770 pounds.

The library of the University contains over 90,000 volumes, open to all members and matriculants under reasonable conditions.

The degrees in medicine granted by the University of Aberdeen are: Bachelor of Medicine (four years of medical and surgical study are necessary), Master in Surgery (same time as to study) and Doctor of Medicine. Requirements: Candidates must be an M. B., twenty-four years of age, and

serve two years in attendance on a hospital or in military or naval medical service, or in medical or surgical practice *subsequently* to his having received the degree of M. B.

A minute description of the various teaching departments in the medical faculty, much less in the other faculties, would scarcely prove of sufficient interest, perhaps, to excuse its introduction here, even did space and time permit. I shall, therefore, only have a few words to say in reference to the pathological department, the chair of which was furnished by Sir Erasmus Wilson, and is very ably occupied by Professor Hamilton. It is here in the pathological laboratory, reviewing some special point of pathology, that my labors are at present confined almost entirely.

Of course, the facilities for observation and the methods of teaching in Berlin and Vienna are yet in store for me, and I must not judge too rashly till I have, as I soon expect, an opportunity of testing there. I am aware, also, how popular Vienna is with most of our American physicians as well as students who have visited it.

It is difficult for me, however, to conceive of much greater facilities for pathological study than I find at Aberdeen. Take, for instance, the department which of course interests me most, renal pathology. One is not expected to visit a dead house or to attend a post-mortem. In the pathological laboratory one finds the material in all shapes of preparation, in abundance, at one's finger ends. If he wished to examine the organs as removed from the body, the assistant will bring him almost any member of every known kidney lesion. If he wishes to cut and examine any of these he is at liberty to do so, and, moreover, he will be taught in fifteen minutes how to cut sections ready to mount at the rate of from 100 to 150 in the minute.

If he wishes to study any particular lesion, he will find at

his finger ends thousands of cut and ready to mount sections of that lesion in most excellent state of preservation, and all he has to do is to mount and study them. I have yet to name a single lesion of the kidney which I have not found in abundance in the pathological laboratory of Aberdeen, and I have been been on the lookout for many of these myself and among my friends in Chicago for years without success in some cases. Nor is it alone in renal lesions that the material is abundant. Some of my very good friends in Chicago in charge of the nervous system would, I am sure, be surprised at the amount of valuable material in the laboratory at Aberdeen in that line.

In an institution so old, where everything is carefully preserved that can possibly interest or benefit the medical mind, it is but natural that material should become abundant.

The methods of teaching are practical, rapid and wonderfully simple, and what I wish more especially to call attention to is the great consideration and kindness shown to strangers here. The stranger in quest of professional knowledge at Aberdeen will find a special friend in Professor Hamilton. It is often these little courtesies and attentions one meets with from home that broadens one's medical views, and makes us think more of our noble profession; and bearing in mind the characteristic generous-heartedness of our American people, I feel sure that in 1887, when the International Medical College meets in our Capital City, that the profession in America will at least equal their European brethren in one respect, namely, in dispensing a most hearty hospitality.

I had intended to have said something of this city and its surroundings, which are by no means unattractive. The coast scenery is boldly picturesque, with its imposing granite cliffs and boulders; its characteristic Scottish firths, estuaries and fissures, winding within and without the rocky coast line. Nor

are the "hills and glens" of which we hear so much in Scottish song less pleasing to the eye, and these are all within easy range, even on foot, from the substantial old city.

But I fear I have trespassed too much on your space and patience, and for the present shall not extend this communication to greater length. Perhaps at Edinburgh or London, my next objective point, I may find something of interest to your readers.

CHARLES W. PURDY.

Dec. 6, 1884.

LETTER FROM WIESBADEN, GERMANY.

For a people so fond of beer the Germans are certainly very fond of water. Possibly it is owing to their great fondness for beer that they are compelled at last to cultivate a taste for water. Livers and kidneys embarrassed by beer are glad enough to find relief through milk and water and grapes. No matter what the cause may be, the fact stands that the German springs are the most largely patronized of all springs, and that the great majority of these patrons are Germans. The Wiesbaden Springs are among the most, if not *the* most famous. Hitherto the springs at Ems have been the most celebrated, but Wiesbaden is fast overtaking Ems—in that to its summer attractions it is adding those of winter—it is in fact becoming the winter resort of Germany. Thus while the hotels at Ems are closed for the season and the springs boarded over, Wiesbaden is filled with guests, and bathing and drinking are scarcely abated. The guests this year have numbered almost 100,000,—the city itself has a population of about 50,000. Wiesbaden owes this good fortune to its favorable location. To the north and west it is surrounded by the high hills of the Taunees range, and to some extent upon the east, so that the

only exposure is a southern one. As to the springs themselves they are almost legion—thirty-two in number, varying in temperature from 50°–155° F.

Dr. Salisbury must have had the Wiesbaden Kochbrunnen in mind when he invented that great American craze—the hot-water cure. Surely extremes do meet when our ice-water dyspeptics undertake to cure themselves with boiling water.

In this famous spring, Kochbrunnen, Nature not only boils but salts the broth—for the water really tastes like broth and is not at all disagreeable, if taken hot. The yield from this one source alone is 17 cubic ft. per minute, while the entire yield of the 32 springs is estimated at 61 cubic ft., and this has continued certainly since the time of Cæsar's invasion, and how much longer man knoweth not, for the origin of the hot springs, according to geology, antedates the origin of man.

For the benefit of those who may wish to recommend these waters to their patients, I enclose their analysis. A pound of Kochbrunnen water contains

Chloride	of Sodium	52.+	grs.
"	" Potassium	1.+	"
"	" Lithium	0.00138	"
"	" Ammonium	0.12841	"
"	" Calcium	3.+	
"	" Magnesium	1.+	
Bromide	" Magnesium	0.02760	
Iodide	" "	traces	
Sulphate	" Lime	0.69289	
Phosphate	" "	0.00299	
Arseniate	" "	0.00115	
Carbonate	" Baryta	traces	
"	" Strontia	"	
"	" Lime	3.+	

"	" Magnesia	0.07979
"	" Protoxide of iron	0.04339
"	" Manganese	0.00435
"	" Protoxide copper	traces
Silica		0.46018
Silicate of Alumina		0.00392
Organic matter		traces
Total solids		63.+ grs.
Carbonic acid gas		6.416 cub. in.
Nitrogen		0.103 " "

It is unnecessary to give the analysis of the other springs, save to say that the mineral constituents vary not in quality but in quantity. While the chief springs of Karlsbad and Ems differ only 1-100 from each other in their mineral constituents, those of Wiesbaden differ by 1-4.

The diseases for which these water are recommended are almost innumerable. However, it seems to have become pretty well established that Wiesbaden waters cure rheumatism, while those of Ems cure catarrhal inflammations. How this distinction can be maintained when the waters vary so little in their chemical constituents it is hard to see. It makes one more and more convinced that the efficiency of mineral waters lies not so much in the "minerals" as in the mode of life enforced upon the patient. And this brings us to the consideration of methods. As in everything else in Germany, music forms a part of the programme. At 6 o'clock in the morning, during the spring and summer, the "band begins to play," and the patients begin to drink and promenade, and those who cannot walk are wheeled about in chairs. To this end there are several roofed colonnades leading to the main spring and most beautiful gardens in the immediate vicinity.

Thus the thoughts of the chronic invalid are beguiled, and he begins his day cheerfully, which as we all know is half the battle. The music and drinking continue from 6 o'clock to 8. The water is slowly sipped while the patient is sauntering to and fro, and as you can imagine, it is very hard for a hurrying Chicagoan to assume the true Wiesbaden "saunter and sip." The almost insensible tendency of the "rowdy Westerner" is to leave nothing but the glass at a single draught, and trot off as fast as he came.

The water thus slowly taken into an empty stomach, while the mind is diverted and the lungs receiving fresh air, has a fine chance to wash out the obstructed secretory organs. The morning draught consists of from one to three glasses of ordinary size. This warm and almost neutral saline water cannot help having a beneficial effect upon the mucous membrane of the digestive tract. If the water is taken barely tepid, it acts as a mild aperient, while the hot water has the contrary effect. These draughts are repeated at noon and again at 5 o'clock in the afternoon, so that fresh air, exercise and cheerfulness find a valuable adjuvant in the springs of Germany! The facilities for bathing are really most excellent, though so far I have not been able to find the attendance, which we consider essential to our bathing at home. It seems to me that massage and shampooing would be especially valuable adjuncts to the bath for the rheumatics and paralytics that crowd the shrines here.

The bath rooms are large, light and well-ventilated, the tubs are of marble or stone, and arranged with sprays and douches of all sorts. They are heated by steam in the winter season. Patients are advised not to remain in the water longer than 15 to 20 minutes, not to take the bath hotter than 92° F., and always to rest after the bath, while formerly the patients were allowed to soak for hours in the hottest water. Here, as every-

where, one hour and a half or two hours must be allowed between a meal and a bath. In accordance with human weakness, much more has been claimed for these springs than they are capable of fulfilling—for example, that the worst case of rheumatism is cured in three weeks—the too credulous sufferer finds that three weeks are lengthened into as many months, if not years. Beside mineral baths, Wiesbaden abounds in all sorts of "Caves," such as "grape," "milk," "whey," "fir-needle," etc. I have had an opportunity to see the "grape-cave" in all its glory, as the vintage of the Rhine is just finished.

The grape-cure establishment consists of a fine apartment upon one of the colonnades, where the most delicious grapes are furnished at the smallest prices.

In order to combine the water and grape-cure one can breakfast on grapes in the colonnade after sipping the water, allowing sufficient time for the absorption of the water before taking the grapes.

The regulation amount for breakfast is from one to two pounds, according to the capacity of the person.

For an Englishman who has grown gouty on roast beef and port wine this is surely a fine *régime*.

If our patient felt the need of a more stimulating diet, he might indulge, at suitable intervals, in a glass of "whey," which is brought fresh from the goats every morning.

Really one does feel quite safe here on the milk question. It is one of the "occasions" in which a paternal government is felt to be the best government that man can make for himself. For example, along comes not a milk cart but a woman—women are found to be the cheapest machines everywhere in this country—this woman carries a large can of milk on her head and one in each hand—along comes a government in-

spector, with the requisite number of bands on his hat and coat—carrying a lactometer. If the milk is found wanting, he turns it into the street and passes on. I should like to send you a few of these uncompromising inspectors to turn over the milk-carts of Chicago,—but here I have really thought the man might carry the cans and allow the woman to carry the lactometer!

The Fir-needle (Kiefernadel) seems to be put to a variety of curative uses. The fir-needle baths are recommended for gout, rheumatism and neuralgia. I have not yet investigated the method.

Then there is a forest-wool (Waldwoll) made from the needles of fir and pine and manufactured into under garments by one Schmidt in the Thuringian forests. The fabric has a golden yellow color and an agreeable pungent odor of pine. A wadding is made of this vegetable wool which is highly recommended by Niemyer and others for bandaging painful joints, etc. As the pungent odor is gradually lost by wear and washing of the fabric, Herr Schmidt has prepared an ethereal oil of this maritime pine, as he calls it, which may be poured or sprinkled upon the under clothes after it has lost its original odor. As the balsamic odor of pine has long been a vaunted remedy for pulmonary catarrhs, why may not this forest-wool underwear be a good compromise for a journey to the pine woods? Possibly this Birnam woods *may* come to Dunsinane. I am reminded, however, that the Birnam woods were oaks instead of pines. Apropos of underwear, the German army is turning its ponderous attention to the subject. Professor Dr. Jäeger, of Stuttgart, recommends an elastic webbing woven from uncolored wool into a single garment, thereby avoiding bands about the waist—a consummation devoutly to be wished.

By the way, the use of Cocain as a local anæsthetic, of which

I wrote you, is becoming quite extensive. Dr. Koller, of the Vienna General Hospital, has been operating successfully with it upon the eye, and its place in the future certainly looks promising. But, unless you have already heard of it, I have to tell you concerning the most remarkable of remedies, viz.: garlic for hydrophobia. The attention of the profession was called to it by an article in a veterinary journal stating the cure of a French peasant. During his ravings he was shut up in a room in which were hanging quantities of garlic roots. He devoured a quantity sufficient to narcotize him and was completely cured. And now it seems that an old Spanish physician—one Victoria Reveira Diaz—possibly a relative of our Dr. Dyas, has been using garlic successfully for some time as a remedy for hydrophobia.

He reports the cure of nine cases in 1882. He applies the remedy internally and externally. The wound is washed and then bound up with powdered garlic. The patient eats two garlic roots with bread every day and swallows sixty grammes of a decoction made from a root of garlic in 720 grammes of water reduced to 500. This treatment lasts for eight days, when the patient is reported cured, but nothing is said as to how long the perfume remains. My attention has often been called to the fact that garlic is a powerful nervine, and it does not seem at all improbable that it might control the fearful spasms of hydrophobia. We shall see.

The latest sensation in the German medical world is the attempt of Bismarck to force an unknown, and, it would seem, unworthy party upon the Faculty of the University at Berlin. This doctor, whose name I have forgotten, cured Bismarck of his obesity and his indigestion, whereupon, by way of gratitude, the Prince must needs call this country doctor to the metropolis and give him a place among the great doctors who

had failed to perform the cure. The unknown one from the country called upon his Honor Dubois Reymond and left his cards for both the Professor and his wife. Thereupon the great Dubois returned his cards. A challenge for a duel on the part of the country doctor was the next step in the affair. The challenge was not accepted by Reymond. I am thus reminded of the appointments of the Cook County Commissioners to places of medical distinction, while the quarrels and jealousies and gossip would be "just like a lot of women" were it not for the fact that the parties are all learned professors of the sterner sex. There is a deal of human nature abroad in Germany.

S. H. S.

Nov. 4, 1884.

LETTER FROM ITALY.

Messrs. Editors:—During the past six months our sunny and beautiful land has suffered a severe epidemic of cholera, of secret nostrums, and of pamphlets. The latter still continues. I have before me a pamphlet four by six inches in size, printed in large type, entitled, "The Cholera—Its Origin—Development—and Remedies." Its author, Leonard L., has had the skill to cover the entire subject in twelve pages, including the frontispiece!

Ever since I read over and over again this production of Leonard's brain, I have been wondering in my mind if Koch and the other scientists really know anything about cholera.

Leonard tells us that for a long time he has been hesitating whether he should publish his ideas on a subject so grave and important as that of the cholera, because he thought it was almost time that the most celebrated physicians of the world should know how to solve the difficult problem. But, so far, no one has, he says, described the cause or the remedy for

this fatal disease; and, therefore, its general extension, instead of diminution, tending to complicate the public calamity with absurd and inhuman precautions, he has thus not only the courage, but feels also obliged to face the criticism and the derision of the great majority, accustomed to bow blindly only to the idols of modern celebrities, most of them risen, not by their merits, but by intrigues and by the empiricism which has invaded the whole civilized world.

Having thus spoken, Leonard asks himself: "What is cholera?" Upon this question is what he has been meditating in his solitude in the country since 1854. At last he has it. "*It is nothing more than a consequence of the displacement of the worms of which we are made up.* A sudden fear, an indigestion, or any other disorder which shakes but does not kill the delicate mass of worms, will arouse them, and they, leaving their normal place, will assail and suffocate the patient, as frequently happens in nursing children. The rice pap discharges are nothing else but a mass of smaller worms with their excreta, triturated by the current of the larger worms which assail the belly, stomach and throat. The greater or less intensity of the assault are proportionate to the greater or less intensity of the disease, and hence the *cholerine*, the *cholera*, and the *cholerone*"

After having reproached physicians, who were not willing to risk their lives by making any autopsy on the cadavers, for the disease is highly contagious, and adding that it is "one thing to speak about death and courage, and another is surely to die," he gives a very interesting explanation why cholera becomes diffued and contagious. "Because the worms, offended by the stench of the cavaders of their brethren, try to escape from their place, and in so doing violently assail the belly, stomach, and throat, causing the choleraic symptoms, and also

death, according to the intensity of the assault, as already described above."

Leonard, not yet content with having done so much good for humanity, sacrifices all himself . . . . . and suggests remedies indicated to pacify and replace the worms, and to kill those who are enraged when they threaten our lives with deadly assaults, viz.: For cholera and cholerine, strong coffee, olive oil, rum, bitter decoctions, etc. For the *cholerone* . . . . . according to the strength of the patient." These points constitute his secret nostrum, *discovered by chance* and *much tried*, which he will make known when "asked by the authorities." He is also "willing to do this if public opinion will favorably receive and appreciate his bold publication."

Alas, Leonard, truly enough thou shalt have to bury thy secret! Ungrateful society, instead of appreciating thy bold publication, shows thee the way to the insane asylum!

A. LAGORIO, M. D.

Chiavari, Dec. 1st, 1884.

SELECTIONS.

THE WILL OF SIR ERASMUS WILSON.

The will, with a codicil, of Sir James Erasmus Wilson, F. R. S., F. R. C. S., late of No. 17 Henrietta street, Cavendish square, who died on August 8th last, at Westgate-on-Sea, was proved on the 17th ultimo by Henry Palfrey Stephenson, Frederick Lane Linging, and Charles Alfred Swineburne, the executors, the value of the personal estate amounting to upwards of £264,000. The testator bequeaths three pictures: A sea-piece, by Salvator Rosa; "Three Sheep," by Sidney Cooper; and a "Hurricane in the Bay of Biscay," by E. W. Cook, to his wife, Dame Charlotte Mary Wilson, for life, and then to the South Kensington museum, or such other public institution in Great Britain as his trustees may think most desirable in the interests of the public—£500. The remainder of his pictures, and all his furniture, plate, works of art, horses and carriages, to his wife; an annuity of £500 to his brother, and legacies to his executors. All his real and household estate, and any personal estate savoring of realty, he gives to his wife, absolutely. The residue of his personal estate he leaves, upon trust, to pay the income to his wife, for life; and, at her death, £5,000 each, free of legacy duty, to the Royal National Hospital, or Sea-Bathing Infirmary, for scrofula only, at Margate; the Royal Medical Benevolent College, the Medical Benevolent Fund, and the Society for the Relief of the

Widows and Children of Medical Men; and the whole of the ultimate residue to the Royal College of Surgeons.

Gifts to Medical Colleges.—The brilliant example of Sir Erasmus Wilson has been nobly imitated across the Atlantic. Mr. W. H. Vanderbilt has made a gift of half a million dollars to the College of Physicians and Surgeons, New York, an institution seventy-seven years old, whose career during more than three-quarters of a century has been an almost constant endeavor to equip its pupils with the best medical education that the condition of the United States would allow. Great as will be the immediate beneficial results of this magnificent gift, Dr. Austin Flint observes in the *New York Medical Journal:* "We may hope for still greater benefit from it as tending to give to private beneficence a direction towards the promotion of medical knowledge and medical education." Mr. Carnegie, of New York, has likewise set a good example in the same direction, by a munificent donation to the Bellevue Hospital Medical College. Our American contemporary, above quoted, makes the following pertinent observations on these acts of bounty to the medical profession: "We are not of those who ignore the evils that are thought to go hand in hand with the amassing of huge fortunes by individuals—we believe them to be real and not imaginary; but it is a great mitigation of those evils for a man of vast wealth to give a tithe of his possessions to the cause of suffering humanity. It is one of those touches of nature that make the whole world kin. The humblest beneficiary of medical care—and they are to be counted every year by the million—may now profit directly, in the heightened quality of his dole, by this one act of a rich man. Surely such a deed should go far to reconcile the poor to a splendor they must look upon but may not share. Let us hope that, so far as material benefactions are concerned, medicine has at last entered upon an

era of good fortune; and, indeed there seems to be good ground for the hope when, within the space of a single year, Sir Erasmus Wilson's munificent bequest to the Royal College of Surgeons, Mr. Carnegie's gift to theBellevue Hospital Medical College, and now this princely endowment of the College of Physicians and Surgeons by Mr. Vanderbilt, have all been chronicled." There must be numbers of rich people who make wills and leave money to those about whom they care little, or to further objects of far less importance to humanity than the advancement of the science and art which benefits all mankind. Not forgetting the instance of the Lariboisière Hospital, and several other continental medical charities, it is chiefly amidst Anglo-Saxon communities that the rich and bountiful have done so much good in supporting and endowing institutions for the cure of the sick. It is also in the two great Anglo-Saxon nations, and simultaneously, that a brilliant innovation has been introduced, the endowment of learned bodies that qualify citizens for the profession of healing their countrymen. It is sincerely to be desired that the example of Wilson, Vanderbilt, and Carnegie will be freely followed in the British empire and in the United States.—*From the British Medical Journal.*

COMMITTEE ON ORGANIZATION OF THE NINTH INTERNATIONAL MEDICAL CONGRESS, TO BE HELD IN WASHINGTON, D. C., IN 1887. *Preliminary Notice.*

The Committee on organization of the Ninth International Medical Congress, to be held in the United States in 1887, met in Washington, D. C., on November 29, 1884, for the determination of the general plan of the Congress, the election of Officers of the Committee, who will be nominated to fill the

same offices in the Congress, and the consideration of questions of finance.

The following rules were adopted:

1. The Congress will be composed of members of the regular medical profession who shall have inscribed their names on the Register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes as the American Academy of Medicine, the American Surgical Association, the American Gynæcological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing Societies being entitled to appoint one delegate for every ten of their membership.

The members of all special and subordinate committees, appointed by the General Committee, shall also be entitled to membership in the Congress, together with such other persons as may be specially designated by the Executive Committee.

All Societies entitled to representation are requested to elect their delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the delegates so appointed.

2. The work of the Congress is divided into eighteen sections, as follows, viz.:

1. Medical Education, Legislation and Registration, including methods of teaching and buildings, apparatus, etc., connected therewith.

2. Anatomy.
3. Physiology.
4. Pathology.
5. Medicine.
6. Surgery.
7. Obstetrics.
8. Gynæcology.
9. Ophthalmology.
10. Otology.
11. Dermatology and Syphilis.
12. Nervous diseases and Psychiatry.
13. Laryngology.
14. Public and International Hygiene.
15. Collective Investigation, Nomenclature, and Vital Statistics.
16. Military and Naval Surgery and Medicine.
17. Experimental Therapeutics and Pharmacology.
18. Diseases of Children.

3. The general meetings will be reserved for the transaction of the general business of the Congress and for addresses or communications of scientific interest more general than those given in the sections.

4. Questions which have been agreed upon for discussion in the sections shall be introduced by members previously nominated by officers of the section. The members who open discussions shall present a statement of the conclusions which they have formed as a basis for debate.

5. Notices of papers to be read in any one of the sections, together with abstracts of the same, must be sent to the Secretary of that section before April 30, 1887. These abstracts will be regarded as strictly confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various sections will be received. Any member, after April 30, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The officers of each section shall decide as to the acceptance of any communication

offered to their section, and shall fix the time of its presentation. No communication will be received which has been already published, or read before a Society.

6. All addresses and papers, read either at general meetings or in the sections, are to be immediately handed to the Secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

No speaker shall be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The rules, programmes, and abstracts of papers will be published in English, French, and German.

Each paper or address will appear in the Transactions in the language in which it was delivered by the author. The debates will be printed in English.

9. The officers of the General Committee on Organization are a President, three (3) Vice-Presidents, a Secretary-General, and a Treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, and of four other members, to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee; to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions, reporting such action at the next meeting of the General Committee.

11. There shall be a Standing Committee on Finance, composed of five members, to be appointed by the President, subject to the approval of the Executive Committee.

12. Those who are elected as Chairmen of the several sections shall be thereby constituted members of the General Committee.

The officers elected are as follows:

President.—Dr. Austin Flint, Sr., of New York.

Vice-Presidents.—Dr. Alfred Stillé, of Philadelphia; Dr. Henry I. Bowditch, of Boston; Dr. R. P. Howard, of Montreal, Canada.

Secretary-General.—Dr. J. S. Billings, U. S. Army.

Treasurer.—Dr. J. M. Browne, U. S. Navy.

Members of the Executive Committee, (in addition to the President, Secretary-General, and Treasurer.)—Dr. I. Minis Hays, of Philadelphia; Dr. A. Jacobi, of New York; Dr. Christopher Johnston, of Baltimore; Dr. S. C. Busey, of Washington.

The Executive Committee will proceed at once to complete the work of organization.

J. S. BILLINGS,
Secretary-General.

WASHINGTON, D. C., Dec. 1, 1884.

REPORT OF PROCEEDINGS OF THE ILLINOIS STATE BOARD OF HEALTH. QUARTERLY MEETING, NOVEMBER 20–21, 1884.

The regular quarterly meeting of the State Board of Health of the State of Illinois was held in the rooms of the board in the capitol building at Springfield, November 20 and 21, 1884.

Present, the Hon. Newton Bateman, President of the board, and Drs. Clarke, MacKenzie, Kreider and Rauch.

After the reading and approval of the minutes of the last meeting, the board went into executive session, for the consid-

eration of charges against certain practitioners under the Medical Practice Act.

At the evening session, the Secretary presented the following:

Quarterly Report of the Secretary.—During the quarter ending September 30, 1884, there were received in the Secretary's office 1,623 communications, letters, reports, etc., and 3,472 letters, postals and other written communications were sent out. Of printed matter there were distributed 2,689 copies of the Fifth Annual Report, and upwards of 200,000 copies of other printed matter—the mail and express packages sent out during the quarter aggregating 8,982 pounds' weight, or over four tons.

Among the more important written and printed documents distributed were those concerning the vaccination of school children, sent to about 12,000 school districts, through the County Superintendents:

Concerning the Sanitary Inspection of Public Buildings—especially of Almsmouses, Jails and similar Institutions—sent to County Commissioners, Boards of Supervisors and other officers:

Concerning the Sanitation of Railway Buildings, Grounds and Travel, sent to the general officers of thirty-three railway companies operating in this State:

Concerning Preventable Diseases, sent to localities in which Small-Pox, Scarlet Fever, Diphtheria or Typhoid Fever appeared.

In connection with these latter circulars, the blanks for Reports of Epidemic Diseases have been revised, and a new edition has been partly printed, together with a circular of instructions for their use.

A pamphlet of 51 octavo pages has also been prepared

printed and distributed, containing the Public Health Laws of Illinois; the Form of an Ordinance for the Protection of the Public Health, suggested for adoption by communities which have no health organization, and for substitution for existing health ordinances which have been found defective or inoperative; Rules and Regulations concerning Contagious Diseases; concerning vaccination; concerning the Sanitation of smaller Cities and Towns; and concerning the Principles and Practice of General Sanitation.

Medical Practice.—State certificates, entitling to practice medicine and surgery in Illinois, were issued to 105 graduates, 88 of which were granted unconditionally upon the diplomas of medical colleges in good standing; 6, upon examination in omitted branches, to graduates of colleges which had not fully complied with the schedule of minimum requirements of the board; and 11, upon presentation of evidence of proper preliminary education, to graduates of colleges otherwise in good standing, but which had not yet enacted a matriculation examination at the beginning of the session of 1883-84. There were also issued 8 duplicate certificates upon affidavits of the loss or destruction of the originals, and one certificate based upon length of practice in the State.

To midwives, 6 certificates have been issued upon the diplomas or licenses of recognized schools of midwifery, and 3 upon satisfactory examination.

Quacks and Disreputables —With the exception of those in Chicago, the fraudulent advertising quacks and disreputable specialists seem to have been pretty well weeded out of the State. For the first time since the passage of the Medical-Practice Act there have been no complaints received concerning this class, except as above indicated.

After repeated attempts, a grand jury was found which in-

dicted eleven of the more prominent of those in Chicago during the month of July; but thus far none of the number has been convicted.

The noted quack, R. C. Flower, of Boston, Mass., has finally abandoned his efforts to secure a foothold in Chicago. By means of insidious and plausibly-worded advertisements, frequently of over a column in length, he succeeded in doing quite a thriving business for a time, and charged the most exorbitant fees. Unable to comply with the law and obtain a State certificate, and being refused an itinerant license, he was compelled to make appointments with his patients at Michigan City, in Indiana, and at Davenport, in Iowa, only venturing to stay in the State for a day or two at a time, and leaving before his arrest could be effected. Some of his dupes and victims have lodged complaint against him, and are now anxious to secure his arrest and punishment.

The suit of Frank B. Smith, one of the "K. and K. Surgeons," against the Secretary of the Board, for $50,000 damages, alleged to have been sustained by the revocation of his certificate by the board on charges of unprofessional and dishonorable conduct, and which suit was brought at Detroit, Mich., in the United States District Court, has been dismissed and the plaintiff mulct in costs.

The Public Health.—Small-pox, noted as exisiting in isolated localities in the southern portion of the State at the date of the last report, was practically extinct at the close of the quarter, with the exception of a few cases in Marshall county, the contagion of which was introduced from Indiana. Reports of a serious epidemic of the disease in Ballard county, Ky., threatening Cairo and the line of the Illinois Central Railroad, led me to visit the locality early in August, after communicating with the Secretary of the Kentucky State Board of Health.

The precautions necessary to protect the threatened region of our own State were instituted, and these were efficiently supplemented by the action of the management of the Illinois Central, under the direction of the Superintending Surgeon, Dr. John E. Owens.

Notwithstanding the freedom of the State from this disease at the present time, and its subsidence abroad, the necessity for vaccination and re-vaccination in all localities where there are still unprotected individuals is likely to become apparent upon the approach of cold weather; and it is incumbent upon local health authorities to secure the fullest protection in season.

There has been a diminution in the prevalence of scarlet fever during the quarter; but toward its close there is noted an increase of diphtheria and of typhoid fever. The demand for the preventable-disease circulars of the board has, in consequence, been much greater than usual, and that on diphtheria has been re-printed, in part or whole, by many newspapers.

In response to a telegram from Dr. Salmon, the veterinary expert of the Department of Agriculture at Washington, I went to Peoria on the night of the 17th of August, and on the following day examined some cattle suspected of being infected with pleuro-pneumonia. The post-mortem examination of one of these animals confirmed the diagnosis, and since that date the disease has been detected in several other localities. Occasional cases continue to be reported, but the State veterinarian believes the outbreak is in a fair way to be suppressed. The necessity for additional legislation on the subject of the contagious diseases of animals, already suggested from time to time in these reports, is emphasized by this outbreak.

Sanitary Inspection and Work.—The results of the efforts made in accordance with the instructions of the board at the last quarterly meeting, to secure a general inspection and improvement of sanitary conditions have been very gratifying. Reports from 230 cities, towns and villages have thus far been received in reply to the circulars sent out, and an immense amount of work has already been accomplished in remedying the defects disclosed by the inspection. In many localities it is known that reports are deferred until the completion of work already being pushed forward in anticipation of the advent of cholera next year.

I have personally inspected a number of the State institutions, and find them in as good sanitary condition as could be expected in view of obvious faulty construction, or location, from a hygienic standpoint. Such suggestions of improvement as I have found it necessary to make have been carried out as far as practicable.

Responses to the special circular concerning railway buildings, grounds and travel, have been received from sixteen companies, comprising the more important of all the roads operating in Illinois.

On the whole, there is cause for congratulation in the progress already made in this effort of the board to secure the best attainable sanitary condition of the State as the most efficient and valuable mode of warding off an epidemic of Asiatic cholera.

It is to be wished, however, that the newspaper press, especially in the smaller cities and towns, would devote some of their space to articles urging the fundamental importance of individual sanitary effort. Without this, boards of health and health officers are to a great extent inadequate to cope with some of the more serious evils. A large portion of the

community needs to be taught that personal cleanliness and cleanliness of the household and premises are among the highest results of sanitary science, and that, of themselves, they constitute the best safeguards against contagion and preventable disease.

The Cholera.—Soon after the adjournment of the last meeting of the board, the spread of Asiatic cholera in Europe and the indications of its possible cis-Atlantic extension became so threatening that on the 17th of July I addressed a communication to the Hon. Erastus Brooks, of New York, chairman of the National Conference of State Boards of Health, suggesting that a session of the conference be held in Washington City, with the view of securing concert of action on the part of all those charged with the administration of public health affairs, of devising some general and efficient system of supervision and notification at all seaports, and of ascertaining authoritatively the plans of the general government with reference to measures for the prevention and limitation of the threatened epidemic. To this meeting it was proposed to invite the health officers and quarantine authorities of all seaports and boundary towns, the health authorities of important inland cities—especially those in States having no State Boards of Health—and the health authorities of the Dominion of Canada.

The suggestion was favorably received, and the time of the meeting was fixed for the 7th of August; but, before that date the President and the members of the cabinet with whom it was desired to confer, had left Washington, so that the chief reason for deciding upon the national capital as the place of meeting was destroyed, and this fact, coupled with more favorable news from Europe, led me to propose a postponement to the regular period of meeting, namely, during the session of the American Public Health Association. The

National Conference accordingly met, in the city of St. Louis, on the 13th of October, delegates from State Boards of Health and from various health organizations in twenty States, and representatives of the Provincial Board of Health of Ontario, and of the government of the Dominion of Canada, being in attendance. The session, which was continued on the 14th and 15th, was devoted entirely to the consideration of the questions above indicated, and the report, formulated in the discussions, addresses and papers, and adopted by the conference, was subsequently endorsed by the American Public Health Association, ordered to be printed, and copies forwarded to the President of the United States and his cabinet, to each of the Senators and Representatives in the national Congress, to the health officers of cities, to the various State Boards of Health, and to the officers of the Dominion of Canada and of the Provincial Board of Health of Ontario.

Copies of the report of the proceedings of the conference, including the text of a paper by Dr. C. W. Chancellor, Secretary State Board of Health of Maryland, "Can Epidemic Diseases be excluded by Sanitary Cordons?" of a memorandum of "Quarantine and Sanitary Methods formulated by the National Board of Health in re-Asiatic Cholera," prepared by Dr. Charles Smart, U. S. A., member of the N. B. H.; and of my address at the opening of the conference—"Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America," have already been furnished to the members of the board; so that it is not necessary at this time to do more than refer to the illustration, furnished by recent developments, of one of the points made in my address, to-wit: "That we may not know how widely spread the disease now is on the European continent, and we do not know how soon its arrival on our own shores may be announced." The proof of system-

atic and persistent suppression of damaging information by European authorities, which I then submitted, and since corroborated by the disclosure of the existence of cholera in Paris for months before the fact was reported, justifies us in suspecting a much wider extension of the area of infection than is acknowledged or known to exist.

The action of the board has already anticipated all the practical measures which have been recommended in the interim since our last meeting, and I do not know that there remains anything more for the board to do in its official capacity beyond a formal endorsement of the report of the national conference.

Recommendations and Suggestions.—The following recommendations and suggestions are respectfully submitted:

First—That a thorough sanitary survey of the State be inaugurated not later than the 1st of January, 1885, under the direction of the board.

Second—That a committee of the board be appointed to prepare revisions and amendments of the laws of the State regulating the practice of medicine, and concerning the protection of the public health. The defects of the statutes concerning both these subjects are patent, and should be remedied as speedily as practicable.

Third—That action be taken in anticipation of the forthcoming meeting of the National Conference of the State Board of Health, with reference to the subject of Asiatic cholera.

JOHN H. RAUCH, *Secretary.*

Upon the conclusion of the reading, on motion of Dr. Clark the report was accepted, the recommendations and suggestions were taken up for consideration, and the following action was had:

Sanitary Survey of the State.—Dr. Kreider submitted the following resolution, which was adopted:

Resolved, That the Secretary be authorized to prepare the necessary blanks and instructions, and to distribute the same to the proper authorities of counties, townships and municipalities, for a thorough and systematic sanitary survey of the State, to be begun by January 1, 1885, or as soon thereafter as practicable.

The Secretary explained that it was proposed to begin work in the southern portions of the State and to work northward as rapidly as the weather would permit, so that by the 1st of May the sanitary condition of every dwelling, in all of its parts, of all premises, outhouses, wells, cisterns and other belongings, should be made known, the remedy of defects be pushed, and the authority of the State Board be exerted wherever necessary to supplement the efforts of local authorities in the preparation of the State to resist the threatened invasion of Asiatic cholera.

National Conference on Asiatic Cholera.—With reference to the forthcoming meeting of the National Conference of State Boards of Health, to be held in the city of Washington, December 10, prox., to consider the subject of Asiatic cholera, Dr. Clark offered the following preamble and resolutions, which were adopted:

WHEREAS, The members of this board, having carefully considered the able and exhaustive paper upon the Exclusion and Prevention of Asiatic Cholera in North America, prepared by the Secretary of the Board, find the argument set forth abundantly supported by incontestable facts duly cited in the text, and believe its conclusions and recommendations to be comprehensive, practical and sufficient; and,

WHEREAS, This subject is the most important of any which now demands the attention of those charged with the protection of the public health—involving, as it does, the prevention of a great sacrifice of human life, of an immense money expenditure, and of serious and widespread injury to commerce, manufactures and all other industries—therefore, be it

Resolved, That a committee be appointed to draft a formal expression of the views of the State Board of Health of the State of Illinois concerning the measures which should be adopted and enforced by municipalities, State and the National Government for the protection of the country against an invasion of Asiatic cholera.

Resolved, That the action of the National Conference of the State Boards of Health, had at St. Louis, October 13–15, 1884—on the subject of Asiatic cholera—be, and the same hereby is, approved and endorsed by this Board.

Resolved, That the Secretary of this Board be authorized to attend the forthcoming meeting of the National Conference in Washington, D. C., and to present to said Conference the action of this Board as above indicated.

On motion of Dr. Mackenzie, the chair was authorized to appoint the committee, to consist of five members, including the President as chairman of the committee. Drs. Haskell, Clark, Mackenzie and Rauch, and the Hon. Newton Bateman were thereupon appointed as members of the committee.

Revision of the Laws.—On motion of Dr. Kreider, the President appointed a committee, consisting of Drs. Rauch, Haskell, Kreider, Clark and Mackenzie, to prepare revisions and amendments of the laws regulating the practice of medicine and concerning public health, to be submitted to the next General Assembly.

During the executive session of the Board the case of Dr. Ed. S. McLeod, of Chicago, was considered. The following extract from the formal notification citing McLeod to appear before the Board, show cause why his certificate should not be revoked for "unprofessional and dishonorable conduct," sufficiently explains this case.

"The charges against you are, that you ply your vocation by means of fraudulent and deceptive advertisements under assumed names, to wit: under the alias of 'Dr. James' and

'Dr. Lucas.' That in order to secure patients, you hold out inducements and promises, and make suggestions, which, in themselves tend to promote crimes and immorality. That you publish and distribute, through the U. S. mails and otherwise, to all classes of the community, including the youth of both sexes, obscene circulars and pamphlets, for which you have already been once indicted in the U. S. District Court at Chicago, when you pleaded guilty, were fined $500 and costs, and your plates and circulars were seized and destroyed by the United States authorities. That such fraudulent, deceptive and demoralizing practices constitute 'unprofessional and dishonorable conduct' within the meaning and intent of the statute, which was enacted for the protection of the people from the ignorant and unscrupulous under the guise of medical practice."

Upon mature deliberation and careful consideration of the evidence offered in support of the charges, the certificate of Dr. Ed. S. McLeod was ordered to be revoked.

After the transaction of the regular routine business and auditing of accounts and bills, amounting to $2,876.55, the Board adjourned.

SOCIETY PROCEEDINGS.

CHICAGO GYNECOLOGICAL SOCIETY.

Regular Meeting. Dec. 19th, 1884.—The President, Dr. H. P. Merriman, in the chair.

Dr. W. H. Byford read a paper, entitled "A Case of Mural Pregnancy." The history of the case was obscure. The patient was twenty-eight years old, married seven years, had one child, six years old. She supposed she became pregnant, for the second time, in February, 1883. In April she became fatigued, and had hemorrhages, which continued until May 9th—about four weeks. Oct. 14th, a discharge of yellow fluid, about one gallon in quantity, occurred. A putrescent, serosanguineous discharge followed, continuing three months. Jan., 1884, a large, brownish mass, with very fœtid odor, was expelled. After this event, mensturation occurred until July. In May, she was quite large, and had bearing-down pains. She entered the hospital Oct. 6th, 1884. She was tapped Oct. 18th, and about four quarts of thick, tenacious fluid, resembling the fluid of an ovarian cyst, was removed. This fluid coagulated on the addition of nitric acid and on boiling. Assisted by Dr. R. Tilley, a microscopical examination was made, with negative results. The "Drysdale" cell was not found. Laparotomy was performed, and a fœtus with placenta was removed without hemorrhage or difficulty. In order to secure perfect drainage, it was considered best to remove the

uterus. The operation was performed on Oct. 30th; the patient did not react, but died within twenty-four hours. Prior to the operation, the patient was extremely reduced by her protracted sufferings. Dr. Byford, in a similar case, at the present time, would elect the vaginal operation. The specimens removed from the woman were exhibited as supporting the diagnosis of mural pregnancy.

This was the second case of mural pregnancy that had come under the reader's observation within a period of five years. The first case was reported to the Chicago Gynecological Society some time ago. The patient was in labor and moribund when Dr. Byford saw her. She had been in labor until exhausted. There was no difficulty in making a diagnosis. The head was low down in the pelvis, almost on the perineum. The *os uteri* was well-nigh inaccessible behind and above the symphysis. The body of the uterus, somewhat enlarged, could be felt, in the lower and anterior part of the abdomen, attached to the tumor containing the fœtus. The fœtus could be felt through the abdominal wall, surrounded by a thick involucrum, apparently as thick as the uterine walls. Fœtal extremities could be distinguished. When dissected, the sac, in which the fœtus was contained, was found to consist of a thick layer of muscular fibers. These fibers were directly continuous with those of the uterus. The tubes and ovaries lay on either side of the lower portion of the sac. The fecundated ovum had made its way down the tube, became lodged in a diverticulum in the anterior wall, and was gradually extruded into the cavity of the abdomen. The fœtus was thus developed within the uterus, though not within the uterine cavity. The resemblance to normal pregnancy is great in the presentation and position of the fœtus, deep down in the pelvic cavity, behind the vagina. The head, in this case, was fixed by the

concentric contraction of the uterine fibers, by which it was surrounded, and could be easily outlined as it lay there covered by the posterior vaginal wall.

The specimen presented is much less perfect than the one described, because of the numerous effects wrought upon it during the great length of time it remained in the maternal body, and the mutilation, consequent upon enucleation.

The treatment of these cases ought to be considered apart from that of extra-uterine pregnancy at term. It is always a matter for special consideration, in connection with each case, as it presents itself, whether or no the removal of the fœtus, at term, in extra-uterine gestation, should be attempted. The dangers of laparotomy are greatly increased by the inability to remove the placenta. The surface to which it is attached has no contractile power, so that the divided vessels are left patulous. If hemorrhage does not immediately prove fatal, the blood is a source of sepsis that must almost certainly destroy the patient. Laparotomy would more likely prove successful if performed some days after the death of the child. In these cases of ectopic or interstital uterine pregnancy, the fœtus may be easily removed through the vagina. An incision made through the posterior vaginal wall would completely uncover the presenting part and enable one to apply the forceps or attack it with the perforator and crotchet as in ordinary labor. After the removal of the fœtus, the placenta should be allowed to separate spontaneously.

Since writing this report, Dr. Byford has seen a case reported in the *Annales de Gynecologie*, July, 1884, occurring in the practice of Mr. Matheson, of England, illustrative of the execution of this plan. The case was reported to the London Obstetrical Society under the title, "Extra-uterine Pregnancy, the extraction of a living fœtus through the vagina." The

child was slightly asphyxiated, but recovered. A sponge, saturated with perchloride of iron was introduced into the sac, after removal of the placenta. The mother recovered. It would seem that the author did not suspect his case to be one of interstital pregnancy. During the discussion that followed, only one of those present expressed the opinion that it was of that variety. Mr. Griffith thought it was either interstital pregnancy, or one in which the fœtus was developed in one portion of a double uterus.

Discussion.—Dr. Edward Warren Sawyer thought that interstitial pregnancy meant the development of the ovum in the uterine portion of one of the tubes. In Dr. Byford's case the uterine portions of the tubes were not involved. It reminded him of a case he had seen near Denver. In this case, a secondary uterus, with muscular walls, had been developed, but as the tubes were not involved, he did not feel justified in designating the case one of interstitial pregnancy.

Dr. D. T. Nelson said, with reference to the treatment of the placenta, that Dr. Byford's advice was that usually recommended in the text-books. The placenta should be left alone in those cases in which the walls of the secondary uterus were not muscular. He had seen a case in the museum of the Chicago Medical College, in which no muscular fibre could be detected in the walls. When the walls of the adventitious uterus were muscular it was questionable whether or no the placenta should be left alone. If the placenta is removed, there is danger of hemorrhage; if the placenta remains, there is danger of sepsis. When there was reason to suppose that contractions of the adventitious uterus would check hemorrhage, he thought the placenta should be removed. He had no experience in these cases.

Dr. E. C. Dudley replied to Dr. Nelson. Women, in cases

of extra-uterine pregnancy, in which the placenta has been allowed to remain, do not die of sepsis. He had seen two or three cases in which the sac had been united to the abdominal incision. Whenever evidence of sepsis occurred, the sac was washed out and the temperature immediately fell to the normal. The placenta, under these circumstances, is spontaneously eliminated in about three weeks.

It required phenomenal powers of diagnosis to tell in the concrete case whether or no the sac had sufficient muscular fibers to prevent hemorrhage. The placenta should be permitted to remain within the sac.

Dr. J. H. Etheridge thought that if, on microscopical examination, it was found that the muscular fibers of the normal uterus were continuous with those of the adventitious uterus, the case was one of mural pregnancy. In cases of abdominal pregnancy, there was a line of demarcation between the normal and the adventitious uterus.

Dr. A. Reeves Jackson thought the members of the Society were greatly indebted to Professor Byford for the presentation of such an interesting specimen. He thought, however, with Dr. Sawyer, that the results of the anatomical investigation did not support the author's diagnosis. The uterine portions of the tubes were not involved. So valuable a specimen deserved very close microscopical and macroscopical examinations. It ought to be referred to a competent pathological anatomist.

Dr. John Bartlett thought the ovum had not passed through the tube, but had been developed in the broad ligament, beneath the peritoneum, and had, in this manner, derived muscular fibers from the uterus.

Dr. W. W. Jaggard referred to the fact that next to ovarian pregnancy, interstitial pregnancy was of most infrequent occurrence. Up to the present time, about thirty cases, in regard

to which the diagnosis was positive, had been reported. Interstitial or mural pregnancy included other sites of development than the uterine portions of the tubes. Dr. Gilbert's case, reported in the Boston *Medical and Surgical Jonrnal*, 3rd March, 1877, and alluded to by Professor Lusk in his treatise on midwifery, was a case in point. The ovum, in this case, was developed, in what seemed to be a bifurcation of the Fallopian tube. In Dr. Byford's case, the tubo-uterine orifices were not involved. The sac was extrinsic to the uterine walls. It was probably a case of abdominal pregnancy, in which the ovum became attached to the posterior wall, and derived muscular fibers from this locality. The fact, that a continuity of muscular fibers from the normal uterus to the adventitious uterus might be ascertained upon microscopical examination, would prove nothing as to the nature of the pregnancy. Dr. Byford's case resembled that of Janvrin, in which the ovum lodged on the posterior wall of the uterus. The specimen was worthy of more exact investigation and should be placed in the hands of a competent pathological anatomist.

Dr. Sawyer said that abdominal pregnancy, with location of ovum on posterior uterine wall, was not at all improbable. He then referred to Bischoff's and Leopold's observations and experiments with relation to the "external wandering over of the egg." Beigel had ridiculed the idea. It was like a blind man introduced into a large, empty room, with a thread in his hand, seeking to find and thread the eye of a needle located in some indefinite quarter of the room. Notwithstanding this sarcasm, the fact of the external wandering over of the egg was a matter of positive knowledge. The egg may pass from one ovary to the opposite Fallopian tube through the abdominal cavity. He thought the specimen exhibited was one of abdominal pregnancy.

Dr. Dudley thought the fact of the external wandering over of the egg was not disputed at the present time. Playfair, in his "Treatise on Midwifery," gave a clear exposition of the subject.

Dr. Charles Warrington Earle said that the fact of external wandering over of the egg was fully recognized twelve years ago.

Dr. Sawyer said the ovum in abdominal pregnancy might be attached to the posterior wall of the uterus, the mesentery under surface of the liver, or to other viscera.

Dr. Nelson made the remark that in both of the cases cited by Dr. Byford, *deciduæ* had been cast off by the *uteri*.

Dr. Jackson said that Fränkel was of the opinion that the formation and extrusion of a decidua was a constant occurrence in extra-uterine pregnancy. It was pathognomonic of the condition.

Dr. W. H. Byford was not surprised that certain members did not agree with him in his diagnosis. He thought that in the first case the fecundated ovum passed through the tube, but had found some diverticulum in the uterine cavity, and had passed into the uterine wall, had developed in this region, pushing the wall before it. Some of the reasons for this position were as follows:

The muscular elements of the sac were directly continuous with the uterine muscle. He did not believe that such a muscular sac could develop adventitiously in the abdominal cavity. He had seen cases of abdominal pregnancy in which the sac contained no muscular fibers. The head presentation deep down in the pelvic cavity, in the direction of the resultant of the forces developed by uterine contractions, supported his view of the case.

It is not necessary for the production of mural pregnancy

that the tubes be involved. He thought there was much in the remarks of Dr. Nelson and Dr. Dudley. In cases in which there was sufficient contractility it was best to remove the placenta. Even under these circumstances it was not absolutely necessary. There was no danger in allowing the placenta to remain.

Finally, he was very positively of the belief that the two cases referred to in his paper, were examples of mural pregnancy. The peritoneum was a boundary line between mural and abdominal or peritoneal pregnancies.

Dr. Sawyer asked the question: Is the peritoneum a boundary line of importance in the macroscopical or microscopical differential diagnosis between abdominal and mural pregnancy?

Dr. Jaggard, in reply, said that the peritoneum was no barrier. What was the peritoneum? Dr. Etheridge, in an article on "Chronic Adhesive Perimetritis," published in a recent number of the CHICAGO MEDICAL JOURNAL AND EXAMINER, had ably sketched the anatomy of the membrane. It was developed out of connective tissue, according to Reindfleisch and other distinguished anatomists. It offered absolutely no barrier to the attachment of the ovum to the posterior uterine wall and its development in this situation, with the derivation of muscular elements from the normal uterus.

On motion, Doctors Byford, Merriman and Jaggard were appointed a committee to select a competent pathological anatomist, who did not belong to the Society, to examine the specimen and report at the next regular meeting. It was specified in the resolution that the *pathologist should be amply paid for the labor.*

Dr. Etheridge then exhibited a placenta with calcareous deposits. The placenta was removed from the body of a woman pregnant for the first time, who had probably carried the fœtus

292 days. The calcareous deposit was probably the result of fatty metamorphosis of the upper layers of the *decidua serotina*.

Dr. Sawyer said the placenta was interesting but not uncommon. It had been erroneously believed that such *placentæ* are of syphilitic origin. He thought the connection with prolonged gestation was established.

Dr. Dudley referred to the calcareous deposit in the walls of the arteries supplying an ovarian cyst, which he had removed some years previously.

Dr. Jackson related the history of a case, in which he had removed a mass of calcium carbonate, situated in the recto-vaginal septum, one and one-half inches from the vulvo-vaginal orifice. There was no fatty metamorphosis in this case.

Dr. Earle thought there was an unreasonable tendency to ascribe such cases to the effects of syphilis. Hydatidiform degeneration of the chorionic villi and *hydrops amnii* received a similar erroneous etiology.

Dr. Etheridge said that the deposits were composed of phosphate and carbonate of calcium. These salts had an affinity for albumens, and fatty acids present in the cotyledons. Similar calcareous deposits were met with in fibroids, thrombi, encysted trichinæ and in the lithopædia of extra-uterine pregnancy.

Dr. W. H. Byford thought the connection between prolonged gestation and calcareous deposits in the placenta was established. He thought Dr. Etheridge would find on microscopical examination that the changes had occurred exclusively within the vessel walls.

The Society then adjourned to meet on the third Friday evening in January, at the residence of Dr. E. C. Dudley, No. 2317 Indiana avenue, at 8 o'clock.

The business of next meeting will consist of

1. Report of the pathologist, Dr. Christian Fenger, on Dr. Byford's specimens.

2. Exhibition of specimens from a double ovariotomy, by Dr. E. C. Dudley.

3. Discussion of certain methods by which the second stage of labor may be rendered easier, by Dr. Henry F. Byford.

W. W. JAGGARD, M. D.,
Editor.

22nd Dec., 1884.
2330 Indiana avenue.

CHICAGO MEDICAL SOCIETY.

Meeting of December 1, 1884.—The President, Dr. D. A. K. Steele, in the chair; Dr. Liston H. Montgomery, Secretary.

At the semi-monthly meeting, held on the evening of December 1, 1884, the regular order of scientific and other important business was, upon motion, temporarily suspended, and the following appropriate remarks and resolutions of respect relative to the death of Dr. Abram Groesbeck, an old and well-known physician and fellow of the Society, whose demise occurred November 25, 1884, at the age of 74 years, 7 months and 15 days, were introduced by Dr. R. C. Hamill and unanimously adopted.

Mr. President and Fellow Members of the Chicago Medical Society:—I arise to offer a tribute of respect to the memory of a beloved member of this Society, who, in the Providence of God, has been suddenly summoned from our midst to appear at the council chamber of the Great Physician.

Death has made many reprisals from the ranks of our profession in these last years. Some who had just entered the portals of professional life, with bright prospects of eminent success in full view, have been cut off in the very flower of

their days—others in the vigor and maturity of their years, manfully bearing their part in the battle of life, have fallen in full clad armor in the front ranks—but he to whom I call your attention to-night had more than filled his cycle of three score years and ten, and a half century of that time had been devoted to professional services at the bedside of the sick and suffering.

"The leaves of the oak and willow shall fade,
Be scattered around and together be laid;
And the young and the old, and the low and the high,
Shall moulder to dust and together shall lie.

* * * *

"The hand of the King that the sceptre hath borne,
The brow of the Priest that the mitre had worn:
The eyes of the Sage and the heart of the brave,
Are hidden and lost in the depth of the grave."

Dr. Abram Groesbeck was no common man, but a learned and scientific Doctor of Medicine, and a man of decided character, as fellows present, who have had a more intimate association with him than has been my fortune, in the remarks that are to follow, I am sure will take great pleasure in declaring.

He lived a life of usefulness, and the world is better for such living—he died in the fullness of his years, his intellect unclouded and his love for the literature of the profession as ardent as in the vigor of his days, an honor to the cause to which the energies of a well-spent life had been devoted, respected by his fellow practitioners, revered and affectionately beloved by the families who for so many years have enjoyed the benefits of his professional skill.

WHEREAS, This Association is called to mourn the loss of one of its beloved members, who, for more than a quarter of a century has lived the life of an honorable and successful physician in our city;

Resolved, That we contemplate with great pleasure the well-rounded character of Dr. Abram Groesbeck, who has so faith-

fully filled the measure of a true American physician, and commend his example as a Christian and a physician to those of our number who are entering upon the arduous and responsible duties of our profession. We regret that we are called upon to part with him forever—that we shall meet him no more at the bedside of suffering—in the social circle or in the busy walks of daily life.

Resolved, That while we regret to note upon the records of our Society the demise of our greatly respected fellow, yet it is with pleasure we contemplate the fact that up to the final summons his mental faculties remained in full strength, and that he was able to contemplate with perfect calmness the approaching catastrophe, saying in that prompt and decisive manner so characteristic of him: "I have accomplished my mission here, and it is better to go now than suffer the pains and aches incident to extreme age."

Resolved, That we admire the learned and gentlemanly physician, and cherish the example he left us as a rich inheritance, and claim the privilege of dropping a tear of sincere sympathy with the bereaved family in this the day of their sorrow.

Resolved, That a copy of these resolutions be sent to the family of the deceased by the Secretary of this Society.

Dr. John Bartlett spoke as follows:

Mr. President:—I desire to say a few words in memoriam of the friend and fellow from whom death has just separated us.

Dr. Abram Groesbeck was born at Albany, N.Y., May 24, 1810. He began his medical studies in his native city, becoming a licentiate of the New York State Medical Society in 1831, and graduating at Albany in 1849. He settled in Chicago in 1856, and continued to practice medicine actively till a few years since, retiring only when he was no longer able to see to write a prescription. It was a circumstance which rendered the very last days of his life happier that "loosed from his environment" in part, as he was by impairment of sight

and hearing, and other infirmities, he yet had a few patients to visit. For some years past symptoms of angina pectoris had developed, and two months since he had a violent attack, from which, however, he recovered, and he was in his usual health till the 24th ult., when he was taken without pain with Cheyne-Stoke's respiration, the period of apnœa alternating with rapid breathing each minute. Meanwhile the action of the heart grew feebler for eighteen hours, when unconsciousness supervened, soon followed by death. Dr. Groesbeck was fully aware of his condition, and yet he spoke cheerily to all, not omitting jocosely to rally the profession upon its want of understanding of, and lack of cure for, his ailment. The doctor expressed himself as prepared and willing to depart this life, declaring that his work was done.

He was a member of the Episcopal church.

Dr. Groesbeck had a tall and graceful figure and a fine face. His features strikingly resembled those of the late Dr. Gross. In manner he was a gentleman of the old school—genial, courteous, amiable. He was of a kindly spirit and benevolent disposition, his most prominent characteristic being sacrifice of self for the advantage of others.

Dr. Groesbeck was endowed with a superior intellect. He received a classical education which led to an appreciation of good literature and the cultivation of excellent taste for the best writers, ancient and modern. His familiarity with the classics he retained in a remarkable degree. It was one of his amusements to confound a friend by leaving his compliments and message on his slate in the language of Celsus. He retained also his knowledge of the French. Even in the last months of his life he selected for reading such writings as those of Tacitus; and only recently he planned to have read to him again the Æneid of Virgil. It gave him great pleasure to ex-

alt the matter and style of the ancients, and to credit them with knowledge, philosophy and rhetorical skill. He liked to dwell among the old moderns, and read with deep interest such works as Pepy's Diary. On one occasion he insisted on leading a medical friend into the Public Library, that he might there read how the physician of one of his favorite old diarists successfully prescribed, hundreds of years ago, milk diet as a cure for diseases of the kidneys. Of late years the doctor had been more interested in religious works, as in "Sceptical Fallacies," by W. J. Hall; and in the volume of Henry Drummond, "Natural Law in the Spiritual World." The latter production he pronounced remarkable.

"One of the saddest reflections of my later years," said recently one of the ablest of Chicago's medical men, "is that the many minor means and arts which experience has given me for the cure of disease and the relief of suffering will perish with me." Dr. Groesbeck was an old and skillful practitioner, and yet, so far as I am aware, he has left no record of his experience. It occurs to me as proper here to note a few of the views, which memory now recalls, held by him as the sum of his experience in certain departments of practice. However opposed the views of the doctor may prove to those commonly promulgated by the professional teacher, it is well to grant due weight to the opinions of so experienced and sagacious a practitioner. The doctor was by nature sceptical, and he was ever on his guard lest he might lend credence to some view not thoroughly established. While interested in theory, he was, preferring methods of true empiricism, loth to acknowledge its value. To the enthusiastic germ theorist who might occupy his attention with ingenious possibilities as to the cause of disease, he was ever ready with his chilling cry, "*cui bono!*" Long before the German cry, "*Fort mit dem spray*,"

was heard over the land, Dr. Groesbeck, when invited to witness an ovariotomy, satirically inquired, "Are they to *play* with the spray?" Dr. Groesbeck often declared himself a disciple of Dr. Todd of London, and for years past had treated pneumonia not as a phlegmasia, but as a form of fever; in some cases giving a bottle of wine in twenty-four hours with apparent advantage. Even the statistical information, furnished since the death of Dr. Todd, adverse to his ideas as to the value of the stimulant treatment, did not change the opinion or practice of Dr. Groesbeck.

Dr. Groesbeck had ever before him in the practice of his profession the strong influence of the mind over the body of the sick. He deemed it a part of the skill of the physician to protect his patient from anxieties and fear. His manner and converse in the sick-room, therefore, were such as to inspire hope and courage in those under his care. It may be stated that Dr. Groesbeck deemed it in practice the part of wisdom to avoid suggesting a consultation; and this, on the ground that it diminished the confidence of the patient in his attendant, and with confidence shaken, no small part of the power of treatment for good he believed to be lost.

For a number of years past the doctor was afflicted with a degree of deafness precluding anything like satisfactory auscultation. It was remarkable how little this circumstance lessened his confidence in diagnosing diseases of the chest. He trusted entirely to acute observation, and shrewd interpretation of the ordinary symptoms.

The doctor looked upon the placenta blocking the os uteri or vagina after labor as a natural and most useful tampon, and he regarded too early an interference with it as a mischievous interruption of nature in her efforts to close and occlude the uterine vessels. Naturally he agreed with Braithwaite, that in

certain conditions of hemorrhage after labor, the uterus being contracted, to tampon was good practice; and he went so far as to suggest that probably in such cases the re-introduced placenta might be the best plug that the accoucheur could employ. The doctor had for nearly forty years of his practice an unusual number of cases of post-partum hemorrhage. He had meantime conducted the third stage of labor according to the standard precepts of the day. Of late years he had fewer cases of hemorrhage, and he referred the change in his experience to a change in his practice. As an almost invariable rule he had during the first decades of his work given ergot immediately after the birth of the child. It was following a discontinuance of this practice that the comparative freedom from post-partum bleeding occurred.

In placenta prævia centralis Dr. Groesbeck believed that perforation of placenta gave as good results as the passing of the hand between it and the uterus, and he regarded the former method as easier, and more speedy than the latter. When under any circumstances turning had to be resorted to, Dr. Groesbeck delivered promptly, impressing on the child the necessary turns, and never waiting for nature to do so. In breech presentations the doctor thought it better practice to break the wedge as soon as the os was sufficietly dilated, bringing down both feet and delivering at once.

The Doctor was an advocate of the rather frequent use of the forceps, using the old model Bedford for higher operations. When the head was lower in the pelvis he used the short forceps, always speaking highly of their convenience and efficiency. It should be remarked, however, that in the selection of the short instrument, Dr. Groesbeck rejected those in the construction of which the maker, in shortening the handles, shortened also the cephalic curve.

Dr. Groesbeck fully endorsed the views of the anatomy of the cervix uteri gravidi held by Braune, Bandl, Barnes and others. He believed that the placenta prævia was located below the os internum.

The doctor was possessed of an unusual degree of candor and was entirely void of professional pretense. He often admitted his shortcomings; thus, he did not hesitate to state that the mechanism of labor as regards the mutations of the fœtal head in passing the paturient canal were to him inexplicable. He declared that he was generally unable to determine the position of the head, and that the reputed "planes and spines" effecting changes in it were to him a "terra incognita."

His favorite obstetrical work was "The Principles of Midwifery, by John Burns." In the preference here indicated our colleague complimented his own judgment as well as the classical production of the Glasgow professor.

The Doctor had a keen appreciation of the ways and means which tact and experience teach as aids to success in practice. In a knowledge of the subtle methods by which a physician may ingratiate himself with the people, magnify his importance, and obtain and retain practice, Dr. Groesbeck was not second to the author of "The Physician Himself." But while he was prodigal of advice in such matters to others, he took, in his own conduct, little heed of his own wisdom.

After he had been in the profession half a century he felt less confident that he would in any case do all that was possible for a patient than he had felt fifty years before. He on one occasion expressed surprise at the recollection of the nonchalant unconcern with which as a novice he had undertaken the management of an adherent placenta or placenta prævia.

As to the profession as a business, Dr. Groesbeck held an

opinion contrary to that of the great mass of practitioners. He always insisted that the practice of medicine was upon the whole as easy and as pleasant a mode of earning a livelihood as any of which he had knowledge.

Dr. Groesbeck felt a fatherly interest in the younger members of the profession, and never tired of stimulating their thought and enlarging their knowledge by the narration of instructive cases and the enunciation of cardinal precepts.

Mr. President: From the shores of the mystical river we call to our vanishing friend the final word of mortals: Vale! Vale! An adieu laden with uncertainty, yet buoyant with hope. As we turn from the dark waters to the duties yet before us, let us pause to inscribe our index memorabilium with the honorable name of Abram Groesbeck.

An Extensive Injury of the Face.—Dr. Robert Tilley related the history of the case, and showed the patient, a boy about five years old, who had been injured by an elevator on the 23d of August. He was lying down on a floor, looking down an elevator shaft, when the platform descended and struck him on the back of the head, just beneath the occipital protuberance, forcing the bridge of the nose against the edge of the opening in the floor. The resistance of the parts at the back of the neck and head being relatively great, very little injury followed in that situation, but the greater part of the force of the blow was sustained by the face, upon which the edge of the floor had evidently impinged, just at the junction of the frontal, nasal, and superior maxillary bones, producing a star-shaped laceration of the soft parts running up the forehead about an inch from the root of the nose, downward along the bridge of the nose for about the same distance, then upward along the right side of the frontal bone to a point corresponding to the outer end of the eyebrow. These wounds extended through

the soft parts to the bone, and two others radiated downward and outward from the root of the nose. The nasal bones were crushed and in part destroyed, the soft parts were torn from the bones, and the cartilaginous septum of the nose was wrenched from the bony septum. The nose and adjacent parts hung down over the mouth and the lower lip, and it appeared as if the right eye was destroyed.

Absorbent cotton soaked in dilute acetic acid was packed in between the soft parts and the superior maxillia, on each side, to stop the bleeding, and the assistance of Dr. Charles Adams, Dr. A. B. Hosmer, and subsequently Dr. C. S. Parkes, was procured. It was decided not to try to force the two maxillary bones closer together, but to leave the parts to heal by granulation, especially as it was thought that it would be difficult to anæsthetize the patient. It was questioned, too, whether the advantage gained would equal the additional discomfort from any device that could be adopted. The boy was in a semi-unconscious state, but there did not seem to be any special indication of brain lesion. The soft parts were brought into good apposition with stitches, and both eyes were occluded with a pressure bandage. There was a good deal of œdema about the right eye. Slight fever followed at once and increased considerably on the fourth day, but yielded readily to the use of warm baths and a little calomel. Up to the time of the removal of the pressure due to the bandage there was persistent somnolence, but, when the bandage was taken off, the boy said, as if in answer to a question, "The elevator struck me." At intervals after this he told the circumstances of the accident, and called to mind various objects he had seen in Dr. Tilley's office at the time the wounds were dressed. It was thought best not to reapply the pressure, and consequently the œdema increased, but union had taken place, except at the root of the

nose, and all but two or three of the stitches were removed. Great swelling persisted, however, and subsequent interstitial suppuration made it necessary to reopen the superficial wound on the right side of the face and the superficial part of the deep wound on the left side. These two wounds were very obstinate in healing, and interstitial suppuration in the contused parts about the right eye had to be relieved by incision, which resulted in a scar at the malar prominence and the subsequent production of ectropion. The tendo oculi seemed to have been torn away from its attachment, causing the orbicularis palpebrarum to act at a corresponding disadvantage.

For nearly three months there was almost absolute anæsthesia of the parts of the face implicated. There was marked diplopia, but it was evidently due to paresis of the muscles of the right eye, and the speaker thought there was no disturbance of the relative position of the two eyeballs. The paresis was now much relieved, and the anæsthesia had almost disappeared, but the canaliculi were quite distorted, and it would probably be necessary to lay them open. The gap between the superior maxillary bones was completely closed, and the nasal passages had been almost occluded by adhesion of the inferior turbinated bones to the floor of the inferior meatus; but a passage had been forced through on each side with the galvanic cautery, and the boy's breathing and enunciation were now practically normal. It was proposed to remedy the ectropion and the general displacement of the right eyelids by loosening the cicatrix over the malar prominence as much as possible, and perhaps by making a counter-cicatrix on the inner side of the lid with the galvanic cautery; also try to make a substitute for the disorganized tendo oculi by causing the integuments to adhere to the bony structures opposite the inner canthus.

Dr. C. T. Parkes, who had seen the boy soon after the accident, thought that the result had been much better than could have been expected, in view of the terrible nature of the injury. Doubtless the measures which Dr. Tilley proposed would overcome the ectropion, which was the most prominent deformity that now remained.

Dr. W. W. Jaggard read a paper entitled "*Palliative Measures in Ruptured Extra-Uterine Pregnancy.*" An editorial bearing this title and appearing in the *New York Medical Record*, of Oct. 25, 1884, contains the following statement:

"There is no palliative measure for a ruptured extra-uterine cyst; there is no expectant treatment; and there is no other way known to medicine by which a woman in this condition can be reasonably expected to survive, save by the prompt use of the knife, and there is no reason for thinking that she would die if this be resorted to in time."

The object of this paper is to offer a protest against this *ex cathedrâ* mode of settling a question, in regard to which there is room for considerable latitude of opinion. Dogmatism, offensive and unphilosophical under all circumstances, attains its acme of arrogance when applied to rules of practice in medicine and surgery. Certainly, the use of the universal proposition, in the assertion just quoted, is both in bad taste and positively erroneous. In the ensuing discussion, attention is limited to the consideration of tubal pregnancy, because of its most frequent occurrence, and usually early termination. Furthermore, criticism of the treatment of the case, detailed in the *Record's* editorial, is incidental.

Tubal pregnancies may terminate: (1) in the death of the embryo and gradual absorption of the ovum, before rupture of the sac; (2) the sac may rupture, but the egg may remain within, and act as a tampon; (3) the cyst may rupture into the

ligamentum latum, with the formation of a hæmatoma; (4) the sac may rupture into the peritoneal cavity, with the formation of a recto-uterine hæmatocele; (5) the sac may rupture into the peritoneal cavity, and the life of the woman may be threatened by free hemorrhage, or the resulting peritonitis; (6) the ectopic pregnancy may persist until the expiration of the full period of utero-gestation. It is impossible, in the present state of medical knowledge, to make any positive statement as to the relative frequency of these terminations. Until within a comparatively recent period of time, only those cases were designated tubal pregnancy in which the diagnosis was made by an autopsy. It is highly probable that ectopic gestation is of more frequent occurrence than the older systematic writers would lead one to believe. It is also probable that termination by recovery is not an uncommon event. These assertions receive some support from the experience of Professor Karl Schroeder:

* "I myself see so frequently cases of tubal pregnancy, in which the diagnosis is positive, pursuing a favorable course, that I consider recovery as the regular termination."

The second, third, fourth and fifth modes of termination are alone pertinent to the present discussion.

(2) *The sac may rupture, but the egg may remain within, and act as a tampon.* Such cases, with favorable results to the mothers, have been observed by *Wiedersperg* † and *Virchow*.

Operative interference in such cases is so obviously contraindicated that it is unnecessary to enter upon any comment upon that subject.

(3) *That cyst may rupture into the ligamentum latum, with the formation of a hæmatoma.*

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* Karl Schroeder's Lahrbuch d. Geburtshülfe, Bonn, 1884, p. 422.

† Otto Spiegelberg's Lehrbuch d. Geburtshülfe, Lahr, 1882, p. 290.

This termination of tubal pregnancy has been observed, up to the present time, with comparative infrequency. * There can be no doubt, however, as to its actual occurrence. The sac ruptures into the broad ligament, the embryo escapes, and an extraperitoneal hæmatoma arises. The embryo may go on to full development in this region; usually it dies and undergoes reductive metamorphosis, while hemorrhage is checked by the pressure of the folds of the broad ligament.

Schuchardt † has demonstrated the possibility of this mode of termination by his celebrated case, published in Virchow's Archives. J. Veit ‡ has observed the same occurrence.

Primary laparotomy is not indicated by this termination, for the reason that the natural history of the condition shows that hemorrhage is usually controlled by the relations of the parts, and ultimately complete resorption of coagula and embryo occurs. Exceptional cases, however, may indicate operative procedure for the arrest of hemorrhage or removal of the embryo.

(4) *The sac may rupture and the fœtus escape into the peritoneal cavity, with the formation of a retro-uterine hæmatocele.*

Ollivier, Leclerc, Schroeder, Vignés, Gallard, Karl Braun, Veit, Chiari, and others, have observed this mode of termination. There can be no doubt as to its occurrence,

As to the frequency of its occurrence, opinions and statistics widely differ. Gallard || makes the statement that hæmatoceles, arising independently of trauma, are almost always due to the rupture of the cyst of extra-uterine pregnancy. Shroeder § says: "This etiology of the hemorrhage (retro-

* Karl Braun's Lehrbuch der Gesammten Gynækologie, Wien, 1883, p. 634.

† Virchow's Arch. Bd. 89, p. 133.

‡ Die Eileiterschwangerschaft—von Dr. J. Veit, Stuttgart, 1884.

|| Lecons cliniques des maladies des femmes. Paris, 1875, p. 635 ff.

§ Handbuch der Krankheiten der Weiblichen Geschlechts organe, von Dr. Karl Schroeder, Leipzig, 1881, p. 452.

uterine hæmatocele) is decidedly of very frequent occurrence, even if the tubal pregnancy is seldom diagnosticated."

Veit * has very recently collected 146 cases of hæmatocele, of which 40, or 28 per cent., are referred to this mode of origin. He is convinced that 28 per cent. is a low estimate of the frequency of the occurrence of this etiological factor. It is highly probable, if not positively determined, that the rupture of the cyst of ectopic pregnancy is a more frequent cause of retro-uterine hæmatocele than the standard American and English text-books are disposed to admit.

The course and results of retro-uterine hæmatocele, caused by the rupture of the cyst of extra-uterine pregnancy, have been the subjects of recent study. The extravasated blood is collected in the recto-uterine peritoneal pouch, encysted, and, together with the product of conception, may be resorbed after a very variable interval. Hemorrhage in these cases is arrested by the diminution in the force and frequency of the heart's action, the process of thrombosis, and the equalization of blood pressure within the arteries and the extravasation. (Schroeder.) Death † from anæmia, in the 40 cases collected by Veit, occurred but three times. No one who is at all familiar with the literature of the subject, more particularly with Leopold's experiments upon the lower animals, can entertain any doubt as to the complete resorption of the embryo. Schroeder has seen, in the autopsy of a woman, dying from a ruptured tubal pregnancy, all the peritoneal lymphatic vessels filled with red blood. Fatal peritonitis, acute or chronic, like fatal hemorrhage, is a relatively rare termination. Schroeder, Veit and Voisin have expressed themselves very positively in favor of the view that, after rupture of the cyst of tubal preg-

* Die Eileiterschwangerschaft von Dr. J. Veit. Stuttgart, 1884, p. 14.

† Die Eileitershwangerschaft, von Dr. J. Veit, Stuttgart, 1884, p. 15.

nancy, with the escape of product of conception and the formation of a retro-uterine hæmatocele, recovery is the rule, and death the exception.

The prognosis is the same as in cases of hæmatocele from other causes. Hemorrhage is seldom the cause of death. Peritonitis is a prognostic element of more serious import. Of the 40 cases collected by Veit, 11 died of peritonitis, at intervals of from a few days to several months.

Remarkable unanimity of opinion, as regards the treatment of retro-uterine hæmatocele, from whatever cause, exists at the present time. Schroeder, Veit, Karl Braun, Spiegelberg, Barnes, Emmet and Thomas advise the expectant plan of treatment. Absolute rest in bed in the horizontal position, or with the hips elevated and the thighs slightly flexed upon the abdomen, the local application of cold,—ice-bags to the abdomen, bits of ice in the vagina, cold water rectal irrigation,—catheterization of the bladder, in case of retention of urine, the exhibition of opium and chloral hydrate, are points of treatment to which it is scarcely necessary to call attention in this connection.

Surgical interference, at an early stage, is seldom, if ever, indicated, for reasons detailed in the foregoing brief sketch of the natural course and results of the condition.

Surgical interference, at a later stage, is considered justifiable under two conditions: (1) persistence of the tumor in its original volume through weeks, without any diminution or alteration, with the occurrence of pains, which confine the patient to her bed for a considerable period of time; (2) the occurrence of suppuration or ichorous ulceration within the tumor. (Bandl, Billroth's Handbook.)

Even under these indications, laparotomy is not regarded as the operation of election. Dr. A. Martin astonished the mem-

bers of the *Naturforscherversammlung*, in Salzburg, by the communication that he had performed laparotomy three times, on account of abdominal blood tumors. The three patients died. Baumgärtner, since the reading of Dr. Martin's paper, has performed laparotomy, on account of a peri-uterine blood tumor, once. The patient made an excellent recovery. With these statistics, laparotomy has roused no degree of enthusiasm. Operators of the present day limit their interference to the various modifications of the methods originally suggested and practiced by Nélaton, that is, vaginal puncture, or incision.

(5) *The sac may rupture into the peritoneal cavity, and the life of the woman may be threatened by free hemorrhage, or the resulting peritonitis.*

Free hemorrhage into the peritoneal cavity and consecutive peritonitis have been regarded, for so long a period of time, as the exclusive mode of termination of tubal pregnancy that no evidence is required to establish the fact of occurrence. Again, opinions and statistics differ widely as to the relative frequency of this mode of termination. The tendency of modern investigation is in favor of the view that free hemorrhage into the peritoneal cavity and resulting peritonitis are unusual occurrences. * Fatal hemorrhage is very seldom observed, according to the observation of J. Veit, when rational expectant treatment has been practiced. Cases terminating by recovery either do not come under observation, or doubt as to the accuracy of the diagnosis is entertained. On the other hand, cases terminating by death from hemorrhage or peritonitis are almost always subjected to post-mortem examination. Very naturally, in the course of time, the fallacious induction—that death from hemorrhage or peritonitis is the rule—has been made.

* Die Eileitschwangerschaft, von Dr. J. Veit, Stuttgart, 1884, p. 65.

It is highly probable that many of the cases, recently reported in American and foreign journals, of favorable termination of tubal pregnancy before rupture of the cyst, as the result of the passage of the electric current, have resulted favorably, not from the death and resorption of the embryo within the sac, but from rupture of the cyst, death and escape of the embryo in the modes just indicated. The effect of an electric current upon smooth muscular fiber is to produce a contraction. When the number of séances, the currents employed, and the symptoms following, are taken into consideration, it is difficult to escape the conviction that in some cases, at least, the favorable result ought to be ascribed to rupture of the cyst. The question of treatment, when the patient's life is threatened by free hemorrhage into the peritoneal cavity, or by peritonitis, is diffiult and important.

Wiltshire, Lawson Tait, Knowlsley Thornton, and *our editorial friend* of the *New York Medical Record*, see in this condition an absolute indication for *immediate laparotomy*. There are others—and they may be justly designated "surgical leaders of the day"—who do not recognize this absolute indication for immediate operative procedure.

The prognosis of laparotomy, after rupture of the cyst, is by no means as favorable as in tubal pregnancy before rupture.

The reasons for gloomy prognosis are evident.

The operation must be performed upon a woman in a condition of more or less profound shock. The state of acute anæmia exercises an unfavorable influence. Ether is dangerous from the possibility of dislodgement of a thrombus and renewal of hemorrhage. Chloroform must be used with extreme caution, on account of the enfeebled heart. The blood poured out into the peritoneal cavity is mechanically removed,

instead of undergoing absorption. The *technical* difficulties of the operation are great. The anatomical relations of the parts are very different from those in cases of consecutive or secondary hemorrhage, after extirpation of tumors by abdominal section. It is difficult, even on post-mortem examination, to differentiate between tissues and organs. *In viva*, the complications are still more intricate, as all who have had experience will testify. The choice of time, of place, and of operator, is out of the question. Abdominal section must be made without qualified assistants, and without attention to the principles of antiseptic surgery. If the patient is removed to a hospital, she may die on the way. If she survives transport, the assumption of spontaneous recovery is justifiable.

"Is, therefore," says Veit, "the prognosis of the operative procedure gloomy *per se*, the prognosis of the tubal pregnancy remains the same; indeed, it grows better with every hour the patient lives after rupture, so that of laparotomy and arrest of hemorrhage there really can be no serious talk." Finally, Veit, after a careful study of the literature of the subject, has been unable to find *one recorded case*, in which the patient's * life was saved by the operation.

Under the expectant plan of treatment is included a variety of expedients. Absolute rest in bed, in the horizontal position, the free exhibition of opium, compression of the abdominal aorta by sand-bags, shot-bags, ice-bags, tourniquet, or the hand, rectal irrigation with ice-water, are the more important methods by which hemorrhage may be controlled and the process of thrombosis favored. It is not necessary to add that all cardiac stimulants and counter-irritants must be proscribed.

If, notwithstanding this therapy, symptoms of internal

* Veit. Die Eileiterschangerschaft, p. 64.

hemorrhage persist, abdominal section may be resorted to as the only procedure, that offers hope.

It may not be amiss to note the "surgical leaders of the day," who defend the line of treatment thus briefly sketched: Karl Braun, Karl Schroeder, J. Veit, August Martin, Sir Spencer Wells, T. Gaillard Thomas, and Thomas Addis Emmet, all advise the expectant plan of treatment, until it has proved futile.

The paper was discussed by Drs. Etheridge, Parkes, Engert and Mergler.

Ovariotomy.—The President read the histories of three cases and showed the specimens. In one of the cases the patient did well for forty-eight hours after the operation, but symptoms of pyæmia then appeared, and she died on the fifth day. At the autopsy a small sponge with a string attached to it was found in Douglas's *cul-de-sac*, firmly embedded in lymph. No hemorrhage had occurred, but general peritonitis had set in, and the cause of death was quite apparent. But for the presence of the foreign body, the patient would doubtless have recovered, and it seemed almost impossible that it should have been overlooked when the final count was made. In the second case the operation was performed within a short time after an attack of peritonitis, and the patient did well. The third case was one of papillary cystoma; the patient recovered. The president wished to emphasize the following points: (*a*) Always count the sponges used in an operation; (*b*) observe absolute cleanliness; (*c*) peritonitis is not a contra-indication of either tapping or ovariotomy; (*d*) cystic fluid left in the peritoneal cavity is dangerous and likely to cause pyæmia, but blood is probably innocuous; (*e*) a rubber blanket fastened to the

patient, with a central fenestra through which to operate, is useless, small tin basins for the waste being preferable, as they can readily be changed; (*f*) each case calls for special judgment and attention to every detail.

Laparotomy for Abdominal Tumors.—Dr. Parkes reported three cases—two of ovariotomy (successful), and one for uterine fibroma (with a fatal termination). There was nothing remarkable about the ovariotomies, but one of the cases was interesting from the fact that the patient came near losing her life by intestinal obstruction at the end of the third week. Such an occurrence was noteworthy, as serving to show that we should be on our guard against reporting "cures" prematurely. In the case of fibroma, supravaginal amputation of the uterus was performed. A solid rubber cord, a quarter of an inch thick, was thrown around the pedicle at the narrowest part, and drawn as tight as the operator's strength would allow, as a temporary ligature. The mass was then cut away about half an inch above the ligature, and hemorrhage was seen to be wholly prevented, but, just as he had turned aside to place the severed mass on an adjoining table, and was about to take up the pedicle for further treatment, the rubber cord rolled over the free end of the stump, and the latter fell into the pelvis, out of sight, while the blood seemed to flow in torrents from its cut surface. Finally, the stump was grasped between the thumb and fingers and drawn out of the pelvis again, and the bleeding ceased. The pedicle was then transfixed and tied in two halves. The trouble would not have occurred if a temporary clamp had been used. The pedicle was dropped, and in closing the external wound great difficulty was met with in returning the intestines within the abdominal cavity, and

keeping them there while the sutures were tied. After rallying from the anæsthesia, the patient vomited a great deal for a number of hours, and, after having ceased, the vomiting returned and lasted up to the time of her death, which took place forty hours after the operation. Only a very superficial autopsy was allowed; but this sufficed to show the cause of death to have been a gangrenous condition of about six inches of the ileum. The cause of this it was difficult to explain, for no twist had been found, and no noticeable injury was done to the gut at any time.

Both the President's cases and those related by Dr. Parkes being before the meeting, Dr. Parkes stated that he was present at the operation in which the sponge had been left in the abdomen, and that he remembered the precautions that had been taken to guard against such an accident. He admired the President's frankness in placing the case on record.

Dr. Etheridge remarked, in regard to Drysdale's corpuscle, which had been mentioned in one of the cases, that it had been found in renal cysts.

Dr. R. G. Bogue thought that it would have been strange if the patient had recovered in Dr. Parkes's case of supravaginal amputation of the uterus, so many and so great were the difficulties met with in the operation.

Dr. Engert asked if the bowels were at any time twisted, or if their refrigeration by long exposure had had anything to do with the gangrene.

Dr. Tilley said that the accident of leaving a foreign body in the abdomen happened oftener in this country than in Europe, because we had different assistants at different operations, whereas European operators always had the

same assistants. The sponges should certainly be counted, or pieces of tape be attached to them. Regarding the confinement of the bowels for eleven days after ovariotomy, he did not think it judicious.

Dr. J. J. M. Angear remarked upon the lessons that were to be learned from cases in which mistakes were made, and on the President's conscientiousness in reporting the case of death from a sponge having been left in the abdomen.

Dr. Liston H. Montgomery and Dr. Parkes dissented from the statement that foreign bodies were oftener left in the abdomen in this country than elsewhere.

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TRANSLATIONS.

THE APPLICATION OF COCAINE TO THE EYE AS AN ANÆSTHETIC. *By* DR. KARL KOLLER, *House Physician to the Allgemeines Krankenhaus of Vienna.** *Translated for the* CHICAGO MEDICAL JOURNAL AND EXAMINER *by* BOERNE BETTMAN, M. D., *Chicago.*

The object of this paper will be to report the results of some experiments relating to the anæsthesia of the eye. This is certainly not the first communication I have furnished on this subject; I sent an essay to the Convention of German Oculists, which met in Heidelberg, September 15–16, 1884, in order to claim priority.

Dr. Brettauer, of Trieste, had the kindness to make known my communications to the convention and demonstrated my experiments, which have been repeated and verified quite often in different places in Germany.

That cocaine, the alkaloid contained in the leaves of the Erythroxylon Coca, possesses the characteristic of anæsthetiz-

*Paper read in the K. K. Society of Physicians, October 17, 1884.

ing the mucous membrane of the tongue upon local application, is a fact discovered in 1859, by Nieman, the scholar of Wöhler. Its powers were made known to us in 1862 by Professor Schroff, who made mention of it for the first time in a paper read before this very Society.

It is furthermore known that cocaine diminishes the caliber of the peripheric blood vessels, by way of the circulatory system, as is also known that cocaine produces dilatation of the pupil by the just alluded to manner as well as by local application. The instillation of cocaine into the eye has therefore been demonstrated before, but those symptons which will form the main object of to-day's paper have thus far escaped attention.

Experiments made with repeated internal applications of cocaine have been invariably so unsuccessful that the remedy fell into discredit and was eventually forgotten. In 1880, Dr. von Alrep* published an extensive work on his experiments with cocaine, at the end of which he hints at the possibility of cocaine becoming a useful local anæsthetic. My colleague, Dr. Sigmund Freud,† of the "Allgemeines Krankenhaus," of Vienna, brought cocaine into prominence by his thorough compilation and interesting therapeutic work.

I started out with the supposition that a substance which paralyzes the terminations of the sensitive nerves of the mucous membrane of the tongue, would produce the same effect upon those of the cornea and conjunctiva and made a series of experiments in Professor Stricker's laboratory, based on these conjectures. My results were in short as follows:

If a few drops of an aqueous solution of Cocainum Muriat-

*Pflüger's Archiv. f. d. ges. Phys. 21. Bd.

† Centralbl. f. Therapie V. Heitler. August heft, 1884.

icum ‡ be applied to the cornea of a guinea pig, squirrel or dog, or by the ordinary method instilled into the *cul de sac* of the conjunctiva, the animal will wink a short time, presumably in consequence of a slight irritation, but within one-half to one minute will again open its eye, which has gradually assumed a strange staring appearance. If the cornea be now touched with the head of a pin (in order to guard against mistakes care should be taken not to come in contact with the eye-lashes), no reflex closure of the lids will ensue, the eyeball remains immobile, the head is not drawn backwards as would naturally have otherwise followed, the animal remains perfectly quiet, and the application of stronger irritants will prove conclusively that both cornea and conjunctiva are entirely anæsthetized. Thus I scratched and punctured the cornea with my needle and irritated it by means of the induced current, which was so strong that it pained the fingers and was unbearable upon application to the tongue; I cauterized the corneæ with lunar caustic until they became milky white—all this did not elicit the slightest movement from the animal.

The last two experiments convinced me that the anæsthesia affected not only the upper surface of the cornea but the entire substance. But when the cornea was cut into, at the same moment when the aqueous humor escaped and the iris prolapsed, the animal gave vent to lively manifestations of pain. I was unable to determine in my experiments on animals, whether the iris could be anæsthetized by instilling some of the solution into the corneal wound or by continued application into the conjunctival sac instituted for some time previous to the operation; for experiments relating to tests of sensibility on

‡ Cocainum Muriaticum is soluble up to 5 per cent. in water without the addition of acid, but is always opalescent. Addition of acid is to be avoided since the slightest quantity produces a severe burning sensation. The opalescent fluid is rendered perfectly clear upon filtration.

unanæsthetized animals, if only comparatively complicated, are very unsatisfactory.

I furthermore tried to ascertain whether cocaine could induce anæsthesia of an inflamed cornea. This question was decided affirmatively through experiments made on animals on whom I had previously produced a traumatic keratitis, their corneæ were as thoroughly anæsthetized as healthy ones.

The complete anæsthesia effected by a 2 per cent. solution lasts on an average ten minutes.

After these successful experiments upon animals, I no longer hesitated to test its action on the eyes of human beings, and applied it to my own eye, to that of my colleagues, and later on used it on numerous other individuals. All, without exception, testified to the complete anæsthesia of their corneæ and conjunctivæ. The course of manifestations is as follows: if a few drops of a 2 per cent. solution be instilled into the conjunctival sac or allowed to flow over the cornea a slight burning sensation and quite a copious flow of tears will ensue, which ceases in one-half to one minute, to be succeeded by a dull sensation of dryness. To an observer the eye will appear dull, staring, as noted in the animals used for experimental purposes. This expression is due to a decided expansion of the lid fissure, a phenomenon to which I will refer later on. If, now, the cornea be touched with a needle, no sensation either of pain or touch is experienced, even the reflex action fails to appear. The same applies to the conjunctiva, where also the sensation due to change of temperature is counteracted. The conjunctiva bulbi can be grasped with a mouse-toothed forceps without causing the patient the slightest discomfort, or the cornea may be indented with a probe; the only cognizance of this manipulation being indistinct vision, due to the altered curvature of the cornea. This complete anæsthesia lasts from seven

to ten minutes, and gradually passes into the normal state through a long transition stage of diminished sensibility. The pupil begins to dilate about fifteen to twenty minutes after the instillation. The dilatation reaches its maximum during the first hour, diminishes visibly in the second, and a few hours later all traces of mydriasis have disappeared. The dilatation is never maximal, and the pupil reacts promptly to light and to convergence during the entire time, in consequence of which the blending sensation which always accompanies atropine mydriasis is never experienced or is present only in a very moderate degree.

The mydriasis is accompanied by a transitory and slight paralysis of accommodation; in my case and in another individual the near point receded one-half inch.

I have noticed, furthermore, a decided ischaæmia of the normal conjunctiva, especially of the conjunctiva palpebrarum, but am unable to state anything definite regarding its duration. I refrain from mentioning, for the present, certain still undetermined observations, as for instance, those referring to the ophthalmoscopic appearances, but desire to emphasize the fact that the application of cocaine during my entire observations has never been followed by symptoms of irritation.

I regard the dilatation of the lid fissure, which occurs simultaneously with the anæsthesia of the cornea and conjunctiva, due to the loss of sensibility of these parts, rendering them insensible to the irritation which in the normal state affects both cornea and conjunctiva, and which regulates the width of the lid fissure.

There are still a few practical points relating to the anæsthesia which I wish to emphasize:

1. The anæsthetic action of cocaine can be augmented; if, on the abatement of the anæsthesia, cocaine be newly instilled

a second anæsthesia is induced, which lasts longer than the first. In this way I have obtained complete anæsthesia, lasting from fifteen to twenty minutes, by repeating the instillation every five minutes for a certain time.

2. The anæsthetic action is a purely local one.

3. Since it is known that cocaine is absorbed, and on every instillation a small amount enters the eye, at first into the anterior chamber, one might surmise that also the more remote parts of the eye would be anæsthetized if it were possible to introduce a large enough quantity of the remedy. But as a certain length of time is requisite for the absorption, and as the duration of the anæsthesia is limited, the numbness of the cornea will already have passed away at the time iris and ciliary body are affected, the cornea will have to be anæsthetized from anew. Both of these demands can be strictly adhered to by a series of systematized and graded applications. Thus I produced a decided diminution of the sensibility of the eye, against strong pressure, after having instilled a five per cent. solution of cocaine, repeated every five minutes for a period of half an hour.

* * * * * * *

Through the extreme liberality of Professor Dr. v. Reuss, director of the clinic of the deceased Jaeger, I have been enabled during the last two or three weeks to test the action of the remedy on inflamed eyes. Dr. v. Reuss, as well as his assistants, Drs. Bochner and Dimmer, furthered my experiments in every respect, for which I express to them my sincere thanks.

My attention was directed from the very beginning to the two therapeutical uses cocaine might be put to: first, to apply it as a narcotic in painful diseases of the eye, and, second, as an anæsthetic in operations on that organ.

I expected very good results from its action with reference to the first mentioned usage, especially in corneal and conjunctival ailments, combined with pain and photophobia. I have, in fact, employed cocaine (in a two per cent. solution) on a number of patients afflicted with conjunctivitis lymphatica, with eruptions and ulcers of the cornea, and also on a patient with fasicular keratitis. All patients treated in this manner expressed a few moments after the instillation an amelioration of their subjective condition, pain ceased and photophobia decidedly diminished. But they as unanimously complained of the return of the annoying symptom two and three hours after the application of the remedy. It is reasonable to expect, however, a complete cessation or at least a diminution in intensity of the pain and photophobia upon continued application of the solution. This mode of procedure could not, as yet, be carried out.

I obtained similar results when used on a man with painful erosions of the limbus.

In like manner I would promise myself happy results from its power to influence pain in iritis, having proven, as I think, that the anæsthetic action of cocaine extends in a certain degree to the iris and corpus ciliare.

The mydriatic action, owing to its insignificance, would not come into play here; still, we might expect the cocaine to influence the pathological process by virtue of its power to diminish the caliber of the blood vessels. Perhaps its combination with atropine treatment might prove of avail. Unfortunately the opportunity has not yet presented itself to test its efficacy in this disease.

The pain, also, consequent to the cauterization of the lids with nitrate of silver, may, by previous instillation of cocaine, be entirely controlled or at least very much influenced. The ma-

jority of patients subjected to this experiment stated that they felt no pain; in a few, pain returned after a short period, but was again immediately controlled on renewed employment of the solution. A lady patient remarked that the pain was less intense than usual, but lasted longer.

My experience regarding the use of cocaine in connection with sulphate of copper treatment is limited and to a certain extent contradictory; at any rate it would have to be applied in this connection in a much stronger solution than in cauterization with nitrate of silver.

I will now consider the second applicability of cocaine, namely, as an anæsthetic in operations on the eye.

Cocaine can be put to excellent service in the removal of foreign bodies from and out of the cornea, which procedure is usually rendered difficult by the restlessness of the patient. In the great majority (about thirty cases) of so afflicted individuals I induced the anæsthesia as follows: I dropped onto the cornea of the patient, who was either sitting or standing and looking to the ground, two drops of a 2 per cent. solution; this I repeated 3–5 minutes later. All kept their eyes perfectly quiet during the digging out of the foreign body from the cornea, and when questioned as to their sensations, replied that they had felt absolutely nothing.

Cocaine was applied with the same good results in a case of tattooing of corneal scars and in a pterygium operation.

Good effects might be expected from the use of cocaine in the cauterization of corneal ulcers with a hot iron, also in cases of *punctio corneæ* and *discissio cataractæ*. Both of the last mentioned operations, which in fact consist in the fixation of the conjunctiva and puncturing the cornea, can be made, as my experience upon animals and human beings have taught, without provoking pain.

Dr. von Reuss did a staphyloma operation upon a boy and girl aged 7 and 8 years, not narcotized, but anæsthetized with cocaine. The children kept perfectly quiet and experienced no discomfort whatever.

Dr. von Reuss was kind enough to permit me to apply cocaine in several cases upon whom iridectomies and cataract operations were done. Upon the whole I would remark concerning the above that in all these cases no irritation followed its employment, which invites to further experimentation. The experiments were followed by diverse and more or less satisfactory results, according to the strength of the solution and the method of its application. The best, indeed almost perfect results were obtained in those cases where the following method of application had been strictly adhered to: during at least half an hour prior to the operation two drops of a 5 per cent. solution is instilled into the eye at intervals of 5 minutes. The patient is placed in a horizontal position, the upper lid is raised, and while he is looking towards his feet the solution is dropped on to the sclerotic above the cornea.

One of the numerous cases thus treated, a woman, upon whom the extraction of a cataract had been undertaken, when asked at each step of the operation as to her sensations, asserted that she was not cognizant of the corneo-scleral section; the grasping and excision of the iris was felt, but produced only slight pain. She reacted to none of the various acts of the operation, neither did a stupid woman, upon whom Dr. von Reuss was loth to operate owing to extreme sensitiveness.

The following case, owing to the peculiar circumstances, is worthy of interest.

A man with seclusio pupillæ of both eyes was iridectomized on the left eye, after cocaine instillation. The man was perfectly quiet during the operation and stated that he had felt

nothing of the corneo-scleral section (made with a lance-shaped knife). He experienced tactile sensation when the iris was grasped and excised, but no pain. A week later the patient underwent a similar operation on the other non-anæsthetized eye. This time he wriggled and squeezed the eyelids so violently as to render the operation very much more difficult.

Although the great majority of patients upon whom such operations are made are torpid individuals who would anyway bear their pains patiently, the last mentioned case appears to demonstrate that in such cases also an anæsthetic may render good services.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

REPORT OF THREE OPERATIONS OF OVARIOTOMY WITH EXHIBITION OF PATHOLOGICAL SPECIMENS. *By* D. A. K. STEELE, M. D., *President Chicago Medical Society, Professor Orthopedic Surgery College Physicians and Surgeons of Chicago, Etc.**

Gentlemen:—Abdominal surgery is no longer an experimental field. Its brilliant possibilities have become accomplished facts. Doubt and uncertainty have yielded to definite knowledge and precise rules. During the past decade more rapid advancement in operative *technique* with resultant lessened mortality can be claimed in the field of abdominal surgery than in the wider domain of general surgery. To the honored names of Keith, Tait, Thomas, Emmet, and other active workers and writers in this field we desire to add three names from this Society, Jackson, Dudley and Parkes, each of whom by conscientious earnest work has largely aided in Chicago, and the West especially, in advancing and maintaining our knowledge of this subject. And to the latter is due the credit of having written one of the most notable papers presented during the period covered by these preliminary remarks. In presenting reports of three cases of ovarian tumor with operations, I am

* Read before Chicago Medical Society, December 1, 1884.

only adding my mite to the sum total of knowledge in this department, and therefore crave your indulgence while I present:

Case 1. Bridget T., aged 59 years, an English washerwoman, was transferred to my care in the Cook County Hospital, June 14, 1880.

Four days previously she was admitted to the Medical Department under the care of Dr. H. P. Merriman, who diagnosed an ovarian cyst. Her family history was interesting from the fact that two older sisters had died of "dropsy," one in the 40th and the other in her 70th year. Father attained an age of 80 years, and her mother died in her 63d year from some lung affection. Mrs. T. did not menstruate until her 20th year. This function continued regularly every four weeks until she was 45, when the menopause occurred without any disturbance of her general health. Her periods had always been painless and lasted two or three days—flow normal in amount.

She was married in her 26th year, but has never been pregnant; enjoyed widowhood for the past 21 years. Has always had excellent health with the exception of an attack of bilious remittent fever about 30 years ago. Was sick a few days "during the war" with "liver complaint," and again about five years ago was in bed a few days with a similar complaint.

In May, 1879, fourteen months prior to her admission to the hospital, she noticed a slight protrusion of the navel, and a few days later noticed a small hard lump as large as a guinea egg in the left illiac region. This seemed hard at times, and again soft; sometimes giving a sensation of heat, and again of cold. This has gradually increased in size until the abdominal cavity was completely filled. Has never experienced any pain in the growth. Frequent micturition with partial incontinence has annoyed her for the past four or five months.

On admission she was fairly nourished; tongue clean, appe-

tite fair, stomach acid, but no nausea or vomiting; bowels regular; pulse 72, respiration 18, tempeaature 98°. *Facies ovariana* fairly marked.

Examination revealed abdomen uniformly enlarged, overlapping ilia and pubes; superficial veins unusually enlarged; girth of abdomen at umbilicus forty-six inches. Manipulation shows enlargement to be firm, resistant and elastic, universally dull and fluctuating, except over an area one and a half inches above navel; line of dullness changes slightly by postural change. No well defined cyst can be outlined by palpation. Vagina is long and narrow; uterus small, atrophic, and drawn upwards. No bulging of Douglas' *cul de sac*. Evidently considerable free ascitic fluid and probably an ovarian cyst.

June 18th, in order to perfect the diagnosis, an attempt was made to draw off the fluid by means of a trocar so as to allow the tumor to be outlined; but unfortunately the cyst was punctured. Thirteen and a half pounds of thick straw-colored fluid were removed; specific gravity, 1011; alkaline reaction, highly charged with albumen, contains Drysdale's cell, cholesterin, epithelium, etc.

Patient was immediately placed in bed, on her back, and kept quiet for three days to prevent fluid escaping from cyst into abdominal cavity. No symptoms followed tapping, and she was around the ward in a few days. The cyst rapidly refilled, and ten days later its firm thick-walled outline, lying chiefly on the right of mesial line, could easily be felt. Lateral motion, on raising it up, transmitted a similar motion to the uterus.

An operation for its removal was decided upon, and she was placed for a week upon preparatory treatment, consisting of a light farinaceous diet, with daily hot baths, frictions and diuretics.

Day before operation she was given milk porridge, a cathartic and hot water vaginal injections, and on the morning of operation an enema of soap-suds.

July 11th, at one P. M., she was etherized for abdominal section. The room in which this operation was to be performed was a private one on the third floor of the west pavilion, and had been thoroughly fumigated, walls washed clean with antiseptic solution and a carbolized spray maintained for two or three hours, temperature brought up to 80°.

The operation was done with the assistance of Drs. C. T. Parkes, Fenger, Jackson, Guerin, McWilliams and the house staff. Some ten or twelve other physicians being present by invitation. The usual incision in the *linea alba* was made, cyst punctured and thick straw-colored fluid drawn off through a Wells trocar; but few adhesions were found, and the cyst which developed from the left ovary was readily drawn out, a temporary fish line ligature applied and the cyst cut off. The right ovary was unaffected—the pedicle was drawn up and tied in three parts by a strong carbolized silk ligature cut short and dropped back. The abdominal cavity was carefully sponged out with fine carbolized sponge to which long strings had been attached in order to guard against the possibility of dropping one—the string was held by an assistant. A good deal of the cystic fluid had escaped into the cavity, and considerable time was occupied in thoroughly sponging it out. A flat sponge was then laid beneath the edges of the abdominal incision, and it was closed by interrupted silk sutures and a complete Lister dressing applied. Patient placed in bed between blankets, surrounded by bottles of hot water and given hypodermic of brandy. Operation lasted nearly two hours. Patient reacted well and made favorable progress for forty-eight hours, when

symptoms of pyæmia supervened and death ensued on the fifth day.

A post-mortem examination revealed a small sponge with string attached lying in Douglas' *cul de sac* by the side of stump, and firmly imbedded in lymph. The ligature was embedded in lymph and no hæmorrhage had occurrred. There was a general peritonitis, and one or two pouches containing ill-smelling pus. The cause of death was apparent; but how it was possible to have overlooked the sponge when the final inspection of peritoneal cavity was made, remains a mystery and adds increased weight to the command, "Always count your sponges."

The cyst was a multilocular one, which, with its contents, weighed twenty-nine pounds. I feel certain that but for the accidental presence of a foreign body in the peritoneal cavity, she would have recovered.

Case II.—Mrs. Alvina S., aged thirty, a German housewife, was admitted to the Cook County Hospital March 13th, 1882, and gave the following history: Father and mother living and in good health; one sister died at the age of twenty-two from "white janders," excessive anæmia and non-appearance of menses.

Mrs. S. had a healthy childhood; age of puberty at 16; menstruations regularly monthly; duration, three to six days, normal in amount and color, painless. Married at 20.

First child one year later; healthy pregnancy, normal delivery, confined one week. Six weeks after delivery, hæmorrhage, which ceased in four weeks. Regular menstrual flow every two or three weeks since, considerable in quantity; painless; notwithstanding had good health. Dates present illness back to August, 1880, when it began with backache in sacral region, cramping pains from hip to knee occasionally,

constipation, throbbing in epigastrium, variable appetite, slept well, no soreness. First noticed tumor in October, 1880, when she began to grow larger around the waist, and supposed she was pregnant until thirteen months had passed. In December, 1880, she noticed a hard, round tumor in the hypogastrium, which increased in size, at times growing rapidly and then remaining stationary. The tumor gradually increased in size until February, 1882, when she was aspirated below umbilicus and ten quarts of a yellowish, greasy-looking fluid were removed, when the tumor entirely disappeared. Four days later she says she again noticed it filling up; sat up in bed then, and fainted for the first time in her life. Remained in bed for three weeks after the tapping. Has emaciated considerable since February.

Examination after admission revealed abdomen enlarged anteriorly, circumscribed bulging with tense walls, universal fluctuation; no partitions into several sacs; no cicatrix of aspirator puncture visible; umbilicus obliterated; palpation shows a moderate sized ovarian cyst, with an apparently harder mass below and to the right side. Vagina normal, uterus small in normal position. No tenderness on examination. March 20th, she complained of burning pains over right side of abdomen; pulse ran up to 106 and temperature to 103.4°. Pulse and temperature continued high for four days, patient complaining of severe pain over abdomen, especially on right side; said it felt as if tumor was going to burst. She was kept under the influence of full doses of opium and a hot poultice applied, when the local peritonitis gradually subsided. March 24th, I aspirated the cysts, removing six quarts of limpid straw-colored fluid relieving dyspnœa and greatly ameliorating most of the distressing symptoms. On the 28th, pulse and temperature were normal, and on April 10th she was able

to walk around the ward. On the 14th there was a slight recurrence of the peritonitis. On the 16th I re-examined her carefully and diagnosed an ovarian cyst of left ovary and decided upon its removal. April 20th, with the same preparatory treatment and the same antiseptic precautions as in the preceding case, I operated, being assisted by Drs. Gunn, Fenger, Guerin, and the house staff. Patient was etherized at 1 P. M. by Dr. F. S. Johnson. I began the operation twenty-three minutes later, anæsthesia then being complete. The incision in mesial line was five inches in length midway between umbilicus and pubes. Different layers of abdominal wall were divided separately until the cyst wall came into view. Numerous recent slight adhesions were found between the cyst wall and the peritoneum. A large trocar was introduced into the cyst cavity and its contents easily evacuated without any portion of the fluid entering the peritoneal cavity. Pedicle was of medium size, springing from left ovary, and was secured by a temporary ligature of whipcord. Patient was now given 30 drops of brandy hypodermatically. Pedicle was now tied in three sections with No. 10 braided silk ligature and dropped back in abdomen after being cut short. Bleeding from points of adhesion was slight, and was controlled by five cat-gut ligatures. Peritoneal cavity was now thoroughly sponged out and a dry, flat sponge introduced, while external wound was being closed. The primary incision was closed by interrupted silver wire sutures, the flat sponge being withdrawn before the sutures were tightened. A double curved glass drainage tube was introduced at the lower angle of wound, resting in Douglas' *cul-de-sac*. Wound was dressed *a la* Lister and covered with salicylated cotton. Operation lasted one hour and thirty minutes, when patient was placed in bed, given hypodermics of whisky and surrounded by hot rubber-bags, and ordered champagne

and ice, catheterized every six hours, and temperature of room to be kept at 75°. Patient reacted well, had considerable vomiting and nausea for the first forty-eight hours, also paroxysmal abdominal pain from movement of intestinal gases, which ceased almost entirely when flatus escaped *per anum* on the third day. On the third day the dressings were removed and changed. The wound was looking well and uniting by first intention. A little odorless serum was drawn out of the glass drainage tube by means of rubber tubing attached to the nozzle of a syringe—was ordered milk and beef tea *per rectum*. On 5th day redressed the wound under spray. No odor and very little discharge about the dressings; wound had united by first intention. Syringe fails to withdraw any fluid from tube. Tube was withdrawn, washed in 3 per cent. carbolized water and replaced. Patients clothing and bed linen also changed. Temperature of room had been gradually brought down to sixty-six. Pulse, temperature and respiration normal and patient permitted to begin taking flour and milk porridge by the mouth. On the seventh day she passed urine naturally for the first time.

Wound was redressed and three of the silver wire sutures removed, and the drainage tube left out permanently. On the tenth day all sutures were removed and the sinus left by drainage tube was found to be rapidly healing. On the eleventh day the bowels moved after an enema quite freely. May 4th the patient sat up in a chair for forty minutes without feeling fatigued. May 12th the wound had entirely healed and a nicely fitting abdominal bandage was applied to support the relaxed abdominal wall.

Summary.—Duration of tumor, since August, 1880, (21 months.) Tapped February 5th, 1882, ten quarts fluid withdrawn. Tapped March 25th, 1882, six quarts fluid withdrawn.

Operation April 20th. Weight of tumor 19 pounds. Highest temperature following, 100.2 (3d day). Temperature continued normal after fourth day. Sat up on 14th day. Discharged recovered on 24th day. Eleven days after she left the hospital her left leg became painful and swollen to twice its natural size by reason of pressure on the illiac vein from plastic deposit around the pedicle. This yielded entirely in a few weeks to rest and bandaging, and she has been perfectly well ever since, menstruating regularly.

Case 3.—Mrs. A. L. M., aged 39 years, a widow, born and always resided in Chicago, mother of seven children, three living, came under my observation September 22d, 1884. I first saw her at my office and elicited the following history: puberty was established at the age of 13, and the flow was always profuse and accompanied with pain. She was married at the age of 17, and conceived four months afterwards. Carrying the child to the full period of gestation, being perfectly healthy. Her labor was very difficult, the child being born double. She was in bed three weeks after her confinement, at the close of which time she sat up, and at the expiration of a month began to go about the house, but was not fully up to her normal condition until eleven months afterward. In one year and eight months after the birth of her first child, she conceived again and carried the child but seven months when she was delivered of a boy weighing three pounds. Child lived eighteen months. Patient thinks she would have carried the child the full term of gestation had it not been for a shock to her system brought on by the death of her mother. She conceived again one year after the birth of her second child (not having had a return of the menses), and a fourth child was born two years afterwards without any indications of the menstrual flow. When nearly five months advanced with her fifth child

she had a discharge simulating the menstrual flow but lasting only one day, after which she saw nothing to indicate a return of the catamenia until after the sixth child was born, in February, 1874. When the sixth child was sixteen months old the menses returned and continued regularly and without pain until she conceived the seventh and last time, October, 1878. After recovering from the last confinement, patient was well until July, 1879, when she experienced severe pain in the left hypochondrium so severe in character as to cause her to consult a physician. All measures taken to secure permanent relief proved futile—the patient growing thinner and weaker until two years ago, when she noticed an unusual fullness of the abdomen just before each menstrual period, and which became less noticeable after the flow subsided. One year ago, when bathing one day, she discovered a swelling in the right side, the dimensions of which were like a large saucer, and which steadily increased in size, giving the patient much discomfort, thus inducing her to again consult a physician, which she did, as previously stated, Sept. 22nd, 1884. She presented at this time a markedly cachectic emaciated appearance, abdomen protruded anteriorly. Prominence was circumscribed to the right of mesial line chiefly, dull on percussion, had a knobby projection and extended down into pelvis, fluctuation being marked. Uterus and vagina normal. Diagnosed a probable multilocular ovarian cyst.

Sept. 24th, two days afterwards, Drs. Jackson and Dickerson saw her, in consultation with me, and confirmed the diagnosis. An operation was advised, and on Nov. 13th the patient entered Dr. Dickerson's private hospital and took preparatory treatment for it. (Hot baths, diuretic, etc.)

Sunday, Nov. 16th, I operated upon her, with the assistance of Drs. Jackson and St. John, and in the presence of Drs.

Earle, Martin, Doering, Byford, Beery, and Messrs. Barlow, Casely and Earle, medical students.

Dr. Dickerson administered the anæsthetic (ether). The temperature of the room was kept at 80°, the air was saturated with carbolized vapor, and the usual precautions of absolute cleanliness observed. At 2:12 the first incision was made, and at 2:57 she was placed in bed, the operation having been fully completed. The primary incision in linea alba was about three inches long, midway between umbilicus and pubes. The tissues were so anæmic that there was no need of using hemostatic forceps, all bleeding points ceased spontaneously a few minutes after the pearly bluish white cyst wall came into view. The cyst was emptied by an Emmet's trocar with tubing attached. No adhesions were found, and the cyst involved the right ovary. The fluid was a dark amber. A temporary ligature of hemp twine was thrown around the pedicle, which was now divided. A cyst of the left ovary, about the size of a fœtal head, now came into view and was emptied by the trocar of ten or twelve ounces of thick, yellow, purulent-looking fluid. This pedicle was also secured by a temporary ligature and cut off. Both pedicles were now secured and tied in two parts by heavy braided silk (No. XI), cut short and dropped back in the abdomen. The peritoneal cavity was now carefully sponged out and rinsed two or three times with warm carbolized water (one per cent.) and sponged dry. No oozing occurred, and no fluid from the cyst was permitted to enter the abdominal cavity. A warm, flat carbolized sponge was now placed beneath the primary incision to absorb any blood that might escape from the needle punctures. The wound was closed by nine interrupted silk sutures and an iodoform dressing applied, covered with salicylated cotton held in place by fine strips of rubber adhesive plaster, and over all a firm flan-

nel binder. Patient's knees were flexed over a firm pillow upon the bed, and after recovering from under the influence of the anæsthetic her pulse was 96; temperature, 98½°; respiration, 22. At no time afterwards did her temperature rise above 100°, or her pulse over 94. She had no vomiting, and absolutely no pain; slept considerable. She was nourished on milk, ice and whisky for the first week, then on milk, porridge, beef tea and animal broth afterwards, no solid food being administered for ten days. No drugs were given. She made a steady rapid recovery without any symptoms to record. Catheter was used every six hours for five days; after that she urinated naturally. Flatus escaped *per rectum* on the second day; bowels were moved by enema on the eleventh day. The dressing was not disturbed until the seventh day, when union was found to be perfect by primary adhesion. All the sutures were removed, the line of union was powdered with iodoform, and a fresh dressing applied. This remained undisturbed until she was able to sit up; occasionally blew a little iodoform under the edges of the dressing by means of an insect powder bellows.

Summary.—Duration of tumor (probably since 1879) certainly since 1883.

Sept. 22d, 1884, ovarian cyst diagnosed.

Nov. 9th, 1884, two ovarian cysts removed; weight, nine pounds.

Highest temperature after operation, 100° (third day.)

She sat up on the thirteenth day, and was discharged recovered on the nineteenth day after the operation. Examination of cysts showed them to be filled with numerous papilliform growths.

The conclusions to be deduced from a clinical study of these three cases may be summarized thusly:

(*a*) Always count your sponges.

(*b*) Absolute cleanliness is more important than absolute Listerism.

(*c*) Peritonitis coëxisting is not a contra-indication for either tapping or operation.

(*d*) Cystic fluid left in peritoneal cavity is dangerous and likely to cause pyæmia; blood is probably innocuous.

(*e*) A rubber blanket with a fenestrum cut in its center through which to operate, and fastened to the belly by a circular adhesive, is useless to prevent the cystic fluid from running over the patient and operating table, as the plaster is usually accidentally pulled off by turning the patient over during a fit of vomiting, or by some over-zealous spectator who seeks to guide the flow of fluid from its folds to the tub or receptacle; better far omit it, and use small tin basins that can be readily changed as needed.

(*f*) Each case calls for special judgment and individual attention to every detail.

ARTICLE II.

THE BACILLI OF SYPHILIS AND HYDRARGYRUM TANNICUM OXYDULATUM.* *By* DR. JOSEPH ZEISLER, *Chicago.*

Mr. President and Gentlemen of the Society:—At the meeting of this society on December 15th, I had the intention to inform you of a new and, as I think, important discovery, but the discussion of Dr. Murphy's paper took so much time that I had not the opportunity to do so. Since that meeting five weeks have passed, and I really do not know that I can give you anything new to-night, supposing that most of you have

*Read before the Chicago Medical Society, January 19, 1884.

read about it in medical journals. But I would not like to disappoint the programme of the evening, and so I shall make some remarks on the Bacillus of Syphilis.

At the meeting of the Vienna Medical Society on November 21st, Dr. Sigmund Lustgarten made a preliminary communication on specific Bacilli of Syphilis, and I think it best to give you a translation of it.

"The great importance of the subject, the peculiar character of the results obtained by me, as also the unanimous and concurrent opinion of eminent physicians, such as Koch and Weigert, and the desire to establish my claim to priority, have induced me, notwithstanding the small number of investigated cases, to give an account of the same.

"I have succeeded in showing, in microscopical sections of two syphilitic chancres and one syphiloma, bacilli, which are perfectly characterized by their color, reaction, form and relative position. These bacilli, which have been found in all of the examined sections, although in slightly varying quantity, represent slim, straight, or somewhat curved little rods of about the same size and the same appearance as the bacilli of tuberculosis. They are always found either single or in small groups, inclosed in lymphoid, somewhat distended cells, and show under a powerful microscope light spots similar to those which Koch regards as "spores" in the tubercle-bacilli. The method of coloring, about which I shall report in a future and more exhaustive paper, makes it possible to distinguish the bacilli of syphilis both from the bacilli of lepra and tuberculosis and from all other pathogenic bacteria as yet known. The fact that the former always are inclosed in cells excludes the possibility of deceptions by putrid formations, and so on. I never could observe anything like cocci, and I emphasize this, because a number of investigators (deceived by more or less important errors) have regarded them as specific microorganisms of syphilis (as Birch-Hirschfeld, and others).

"I refrain, for the present, from speaking of any ætiological

relation of the described bacilli to syphilis, only desiring to state the fact of my microscopical results."

Thus far Lustgarten.

Now, gentlemen, the mistakes of Finkler and Prior, in Bonn, in regard to the claimed identity of the bacilli of cholera nostras to cholera asiatica ought to be a warning example, to prevent rash conjectures. Likewise you certainly will remember that Lostorffer, in Vienna, about fifteen years ago, thought that he had found characteristic micro-organisms in the blood of syphilitic individuals, which he called "Syphilis Körperchen," corpuscles of syphilis, but which afterwards were found in lupus and even in normal persons.

But from long personal acquaintance, I know Dr. L. as a thoroughly scientific and very sceptical investigator; he has spent the greater part of the last year in the laboratory of Prof. Weigert, in Leipsic, and surely he has also made the pure cultures of the new bacillus; at all events the confirmation by the great master, Koch, is important enough to banish our doubts. As to the importance of the new discovery, I think you will agree with me that it perhaps exceeds that of the cholera bacillus, as syphilis is a disease of such general occurrence, and not of an epidemic character.

Dr. Sigmund Lustgarten has also introduced into the practice a new remedy against syphilis, *hydrargyrum tannicum oxydulatum.* It is nearly a year ago that the first trials with it were made at Prof. Kaposi's clinic for skin diseases, in Vienna, and the results showed, as you will see further on, that it was accompanied by some remarkable advantages. It is already quite often used in Germany, and Dr. Görges, in a paper on the present state of treatment of syphilis, read before the "Gesellschaft für Heilkunde," in Berlin, as well as Professor Auspitz, in his introductory lecture in his clinic for syphilis, in

Vienna, mentioned it as a very useful preparation. But as far as I could learn, till now, very little notice of it has been taken in this country, and Messrs. Shering and Glatz, in New York, who have the privilege of selling it in the United States, told me that as yet there has been no demand for it. I think, therefore, that a short reference to it and its properties will not be without interest to the profession.

It would surpass the limits of my paper to begin here with even a condensed review of the present state of the treatment of syphilis. Nor do I deem it necessary to state that mercury is now generally regarded as possessing specific effects against that disease. As to the different ways of introducing mercury into the human body, I think that the old method of frictions will still for a long time maintain its position and extended use, though now mostly regarded as quite unscientific and rather barbarous.

The great progress which has been made by the subcutaneous application of mercurial solutions is surely invaluable in spite of the disadvantages combined with it.

Still, there are very many cases where both methods are not practicable, and where we prefer the internal treatment. The largest use in this direction was made till now by the Protoioduretum of Hydrargyrum, first recommended by Ricord, by calomel and by sublimate. But all of them answer very unsatisfactorily the purpose which we expect and demand of them, that is, a rapid absorption into the circulation without disagreeable effect. I think, in both regards, the *hydrargyrum tannicum* is more valuable than all other preparations.

The remedy referred to is the tannate of the protoxide of mercury; it is a dull green powder without odor or taste, and is only soluble when decomposed. Hydrochloric acid makes no sensible impression upon it; by nitric acid it is easily dis-

solved with a brown color. Very dilute alkalies, ammonia, solution of caustic potash and the alkaline carbonates, reduce it in a short time to a sort of magma composed of very small particles of metallic mercury. They are so minute that the greater part of them present, under the microscope, the phenomenon known as molecular movement. This process of reduction is produced under the influence of the alkaline reaction of the intestinal juices, and it is more than probable that the absorption of the particles of mercury in the intestines is produced in a similar way as on the skin by mercurial frictions; it might also be regarded as an analogous to the absorption of fat, which also takes place after the fat has been transformed into a state of emulsion.

By all means the rapid resorption into the system is proved by an abundant mercurial precipitate in the urine short time after introducing it. This can easily be understood, as the new preparation contains about 50 per cent. of metallic mercury.

The remedy was tried in nearly all forms of syphilis, either recent eruptions or inveterate, in papular, pustular and gummous syphilides. Dr. Lustgarten has reported about twelve of these cases in Nos. 11 to 14 of the *Wiener Medizinische Wochenschrift;* I have seen all of them, being at that time at Kaposi's clinic as assistant. I can confirm that in all of them a rather surprising result was obtained, even in those cases of relapse of a very rebellious nature, as syphilides with small papules and pustules. Six of those cases were primary eruptions, among which two syphilides with small papules and one with large papules and pustules; three other cases were relapses of secondary syphilis, and three were gummous forms. In two of these latter cases local applications of mercurial plaster were made, according to the fact that in such cases local and constitutional treatment work together in harmony. But in

all of the remaining cases no other remedy was prescribed, and sometimes when a patient had some experience in that disease, we prescribed frictions with an indifferent ointment, in order to detain him in the clinic for the purpose of study. Already seven to fourteen days after the preparation had been used, a rapid regression of the lesions ordinarily could be observed, and after three or four weeks all were cured.

In this city I had only one opportunity to use it. It was in a young man, H. G., about 25 years old. Chancre in last June; six weeks later roseola. He said that he had been treated by internal and external remedies, at last by zinc ointment (!). When I first saw him on Sept. 13th, I found a very largely diffused maculo-papular syphilide. I recommended mercurial frictions, and immediately wrote to New York to get the *hydrargyrum tannicum.* From September 19th until October 5th he took three decigrammes of the preparation every day; on the latter date the eruption had entirely disappeared; only a few pigment spots could be seen. No symptoms of mercurial intoxication could be observed. I ordered him to continue the use of the salt, and on November 2d I discharged him as cured.

The new drug has been prescribed in doses of one decigramme (about one and a half grains) with four parts of sugar, two to three times a day, one hour after meals; this latter in order to avoid direct irritation of the mucous membrane of the mouth. An addition of alkaline carbonates, as well as larger quantities of mineral waters containing such salts, should be avoided, as these would decompose the salt. Also the use of iodide of potassium is not good, because larger masses of iodide of hydrargyrum could be formed.

It is remarkable that disagreeable symptoms of mercurial intoxication—stomatitis and salivation—as so often seen in case

of other preparations, never followed the use of this salt; only in one case could we see a swelling of the gums. A disagreeable influence on the intestines, the gravest of all objections to other internally used mercurial preparations, did not make itself felt, even when the hydrarg. tann. was taken for weeks, and in that seemingly large dose of four decigrammes daily. The digestion was always undisturbed; the action of the bowels regular. This can be explained partly from the decomposition of the salt by the intestinal juices, partly from the presence of tannic acid. Still, the hydrarg. tann. should only be given when all organs of digestion are in a normal condition. In order to avoid a possible irritation of the intestines, Lustgarten recommended to add to each dose five centigrammes of tannic acid, or one-half centigramme of opium.

I do not think the new drug will produce quite a revolution in the treatment of syphilis, but the effects as yet noticed are so remarkably good that the new method deserves to be placed by the side of the best methods hitherto employed. To treat that disease, I should be glad if some of you would try the drug and report about it at some future date. As I mentioned, it can be procured of Messrs. Shering & Glatz, in New York, and Mr. Sargent of this city has ordered it at my instigation.

125 State Street.

ARTICLE III.

MANGANESE AS AN EMMENAGOGUE.* *By* FRANKLIN H. MARTIN, M. D., *Chicago.*

Ringer and Murrell, of London, in a little article (*Lancet*, Jan. 6, 1883) called the attention of the profession to gratify-

*Read before the Chicago Medical Society, January 5, 1885.

ing results obtained in experiments performed by them in the treatment of amenorrhœa by the salts of manganese. Since then I have taken advantage of every opportunity afforded me in dispensary and private practice to satisfy myself as to the action and efficacy of the new remedy in this direction. I published the results of my first investigations in the *New York Record*, Sept. 29th, 1883.*

Since the publication of that article I have continued my investigations with considerable zeal and now wish to give additional testimony confirming the efficacy of the remedy as a menstrual stimulant.

I have found that manganese will not only relieve certain forms of *amenorrhœa* but will also relieve forms of *menorrhagia* and *metrorrhagia*. As these several conditions, AMENORRHŒA, menorrhagia and metrorrhagia, are dependent upon so many different causes, it is very necessary for us to discriminately point out the exact conditions in which manganese is indicated. Ringer and Murrell in recommending manganese for amenorrhœa neglected to point out with explicitness the peculiar forms of amenorrhœa in which they found their remedy to exert its greatest influence.

"From my observation I have been led to consider manganese in any form a direct stimulant to the uterus and its appendages. It may exert this influence by acting as direct vasomotor nerve stimulant to the vascular system of the parts, and in consequence of the improved circulation directly increase the tone and nutrition of the organ, as it may exert its whole force through stimulation of the sexual nerve ganglia, or even possibly the sexual nerve centers, thereby bringing the organs to their normal state of action." At any rate its action is

*When not otherwise indicated, quotations in this article are from my article on manganese that was published in the *New York Record*, Sept. 29th, 1883—M.

prompt, and direct in bringing the uterus and appendages to a normal state of menstrual tonicity, when the lack of tone is dependent upon some previous depression of innervation.

It will be seen by the following typical cases, that even when the cause of the depressed innervation is still acting, this remedy will exert its stimulating power over the menstrual mechanism. A young woman, eighteen years of age, in consequence of phthisis had not menstruated in four months. Experimentally I gave her manganese. Menstruation occurred within a week. "Another young woman, twenty-four years of age, with an aggravating digestive trouble of some years' standing, had become very irregular—flowing profusely for a week or two, then scantily for an equally irregular time, again followed, perhaps without warning, by a profuse flow or as likely a complete cessation. This state of affairs had been going on for more than a year. There was no dysmenorrhœa. She was very weak and anæmic from the effects of indigestion and loss of blood. This patient was given two grains of the permanganate of potash dissolved in one-half glass of hot water every night on retiring. It was kindly received in this way by the irritable digestive organs. In a very short time there was a decided improvement in the menstrual trouble, and the patient has since menstruated three times normally."

"In young girls who are irregular in the early months of menstrual life, where it is simply caused by the natural weakness of the partially developed organs of generation, or where, from an overworked nervous system, the organs are robbed of their natural nerve force, this remedy seems to possess the stimulating properties requisite to bring them into healthy action. A remarkable case of this kind was that of a young girl who had menstruated once. Eight months had passed and the menstrual flow had failed to appear again. The mother of

the girl being alarmed sought advice. The permanganate was given in two grain doses twice a day. Within a week the girl menstruated the second time in her life. In two other cases of 'missing' in young girls, without any apparent cause, or any other symptoms, the remedy given in the same doses a few days before the next regular period was expected, stimulated the organs to a normal flow. The action of the manganese was so prompt in these cases that I am convinced it was no coincidence." Since the above report was made I have been able to add many similar cases to my list, and the results have been invariably as gratifying.

"It is well known that from exposure to cold the weakest organs of the body are the ones most liable to suffer. A woman who, when exposed to cold, immediately suffers suppression, cessation, or excess of the menstrual flow, will invariably be found to possess susceptible and weak menstrual organs. In cases of this kind, viz.: suppression, cessation or excess of menstrual flow, caused by catching cold, with no other apparent cause, the most gratifying and prompt results are obtained from manganese. The above variety of cases are of so frequent occurrence that in them I have had numerous opportunities to test the new remedy, and I have yet to see it fail, in either amenorrhœa or menorrhagia, when due to irritation of cold alone. In several cases where the flow was a week or ten days overdue from catching cold, the permanganate was given in large doses, and its almost magical effect demonstrated by the flow appearing within twelve hours."

My principle object in making *this report* is to emphasize the fact that manganese is a general stimulant of the menstrual organ, and in consequence of its stimulating power is an efficient remedy in certain forms of *menorrhagia* and *metrorrhagia*. In my report one year ago, I mentioned this point, but at that

time my opportunities for testing the drug in that direction had been somewhat limited. I said at that time:

"Although I have had greater opportunities for testing the value of manganese in *amenorrhœa* than in *menorrhagia* or *metrorrhagia*, I have received unmistakable evidence of its power in the latter forms of menstrual trouble."

"Menorrhagia and amenorrhœa in their outer manifestations are exactly opposite in nature, but they are very often dependent upon the same causes. When the cause is anæmia, or any depressing constitutional disease, producing a perversion of the functional activity of the menstrual organs, and their *perverted* action consists of an *irregular* or *excessive* flow, this condition will as readily succumb to the stimulating effects of manganese as when the opposite condition exists. The following cases are of interest: a woman, aged twenty-six, sought advice for excessive and irregular flowing. She had been married two years, and had one child, twelve months old. The child was large and strong, the mother physically slight. The mother nursed the child, and for ten months stood the strain very well, when she commenced to fail, suddenly grew weak and anæmic and began to flow excessively. This continued with but a few short irregular remissions until I saw her at the dispensary. She was given two-grain-doses of the permanganate of potash four times a day. At the same time all other treatment was withheld. In three days the patient returned, saying that the flow had stopped the next day after receiving her medicine. I then discontinued the manganese, prescribed iron and nourishing food, and she continued to improve. By digital examination nothing abnormal was revealed in the above case. Another case was that of a large, stout woman, thirty-five years of age, who came to the dispensary suffering from menorrhagia. Her menstrual periods were reg-

ular as to *time*, but the quantity of blood was alarmingly excessive, and would last for two weeks. She was married, had three children, the youngest three years of age. This abnormal condition of menstruation had been coming on by degrees for a year. The uterus was a little enlarged, and soft to the touch; otherwise, by physical examination, nothing abnormal. Four days before the expected flow, she commenced taking the permanganate in two-grain doses, three times a day. Menstruation came on at the expected time, and after a normally free flow for four days, passed off naturally. Before the next period the same treatment was repeated, with the same marvellous result."

The above histories were written a year ago. Since then I have seen a great many cases of menorrhagia and metrorrhagia succumb to the effects of manganese. I have complete histories of a number of these cases which might be of interest, but will be content to mention a few typical cases taken from the case book of Dr. S. F. Bradley, of this city, a gentleman who has taken considerable pains to test the value of manganese in menstrual troubles.

I. "Mrs. D——, age thirty-three. Treated during winter and spring of 1883 for chronic endo-cervicitis and endo-metritis; and enjoyed good health until August 10th, when she was taken with menorrhagia, which lasted six days before medical advice was sought. Gave in succession ergot, gallic acid, hot injections, injected tincture of iodine into uterine cavity, and finally plugged cervical canal with sponge tent which remained twenty hours. Hæmorrhage still continued. Then ordered capsules, each containing two-and-one-half grains of permanganate of potash, one to be taken every three hours. Flow ceased shortly after taking the second capsule.

II. "Mrs. F——, aged thirty. Made first visit January 19th,

1884. Three weeks before had a miscarriage at three months, and was attended by a midwife. January 19th, began flowing excessively, and suffered much pain in uterine region. Detected by digital examination a piece of placental tissue about size of hen's egg in uterine cavity. Removed with fingers, and flow ceased. From this time until February 24th, she improved rapidly from her anemic condition, but at the above date menorrhagia began and was excessive. Ergot (℥j fl. extract every two hours) was given during the night with no cessation of flow. The following day ordered two-grain capsules of permanganate of potash. Hæmorrhage ceased in two hours after taking first capsule.

Case III. "Mrs. McF——, age thirty. Two children, youngest one and a half year old. Began flowing in the middle of Sept., 1883. She sought no medical advice until Oct. 15th. The hæmorrhage had rendered her exceedingly weak and anemic. Gave ergot and elixir ferri quin. et strych. She continued this prescription for ten days, with no benefit. Ergot and gallic acid were then used with no amelioration. Careful examination revealed no enlargement of uterus—no tenderness—very slight laceration of cervix. On the 28th of Oct. ordered two-grain capsules of permanganate of potash, one every four hours. One hour after first capsule had been taken the flow ceased suddenly. The capsules were continued until three or four had been taken. Saw her a few weeks ago and her health had been excellent.

Case IV. "Mrs. B——, age thirty-five. Five children, youngest two years. Laceration of cervix (bilateral). Uterus four inches in depth. Chronic endo-cervicitis and endometritis—slight prolapsus. Treated her for uterine trouble a couple of months previously, and had advised operation. During the middle of October was taken unwell, flow never so

profuse. Had continued several days before seeking medical advice. Ergot, mineral and vegetable astringents had no effect. Gave the permanganate in two-grain doses. Shortly after first capsule was adminstered the flow began to diminish, and ceased entirely after the third had been given."

As has been demonstrated in the foregoing cases, the action of the drug is very prompt where indicated, and if discriminately given I am sure similar gratifying results will be obtained by others.

Dr. T. Gaillard Thomas, in an address on obstetrics and gynæcology, delivered at the first annual meeting of the New York State Medical Association, and published in the *Medical News*, of Philadelphia (Nov. 22), said of this remedy: "Permanganate of potash . . . . . as an excitant of the menstrual flow is, I think, the best emmenagogue which has yet been discovered." Dr. Roberts Bartholow, in a recent article on permanganate of potash, said: "The powers possessed by permanganate of potassium as a general stimulant are well exhibited in the active emmenagogue property which it has been shown to possess by Drs. Ringer and Murrell. In cases of amenorrhœa, due to deficient activity, it seems to promote the function in a remarkable degree. The same power which can so stimulate the sexual functions must, when exerted in other directions, prove equally effective."

"Although manganese, like the allied metals, nickel, zinc, iron and silver, has a direct influence on the blood as a tonic in anæmia, chlorosis, etc., it cannot be possible, in my opinion, that its peculiar influence on the catemenia can alone depend upon that virtue. To influence the organs of menstruation by acting as a general tonic, would necessarily be a slow process, and the effect would be very gradual. It would undoubtedly, however, as a general tonic have a predilection for these or-

gans. This was noticed and commented upon by W. H. Broadbent, of London, after experiments performed by him and recorded in the "Proceedings" of the Clinical Society, of London, for 1868-69, Vol. II., p. 122. 'Manganese,' he says, 'seemed to have a special influence in promoting the returu of the catamenia and nickel a special property of checking leucorrhœa.' But one can readily see by the character of the cases reported this evening, that manganese must have a more direct mode of influencing the menstrual organs than by the necessarily slow one of a general tonic."

In prescribing manganese it is well to bear in mind a few points of importance. Permanganate of potash (the original preparation used) has a disagreeable, distressing effect on the stomach when taken undiluted, which may be obviated by administering on a full stomach—immediately after eating—or dissolved in considerable water. In administering the permanganate in pill form it must be remembered that excipients ordinarily used by dispensers will produce with the drug spontaneous combustion. Dry gelatine capsules I have found to be the most convenient form in which to administer this preparation.

Dr. Roberts Bartholow says of permanganate of potash, in regard to mode of prescribing: "As this salt is so readily decomposed, yielding up its oxygen to any organic matter present, it is obviously necessary to be very careful in preparing and administering it. It should be given dissolved in pure water, or in compressed tablets. These compressed tablets, made by Wyeth & Brother, of Philadelphia, contain no excip ient, and are, therefore, entirely free from objection,"

22d Street and Wabash Avenue.

ARTICLE IV.

DIPHTHERIA: *Remarks on the Germ Theory, with Report of Cases under Alcoholic Treatment.** *By* G. H. CHAPMAN, M. D.

There is perhaps no disease known to medical science which has been so constantly and thoroughly discussed in all its bearings, as to its origin, history, pathology, and treatment, as diphtheria, and still leaves us so comparatively in the dark as to reliable remedies. I think I would not go astray in saying that every physician, the veteran, as well as those who are just entering the field, is ready to adopt any method of treatment which offers a reasonable promise of securing the end sought, viz.: the cure of the patient.

It is not my intention to enter into this subject in detail in this paper, but simply to present to your minds a few facts which have, in my experience, proved of value in combating this dread disease.

And first as to its development. Is it local, or does it involve the whole system? Many writers have considered it a purely local disease, and as such they advocated only local remedies, while others have gone to the other extreme and given no attention to local measures. Perhaps the most recent and universal theory has been that given by Oertel, that diphtheria begins as a local disease and develops afterwards into a general one; and that, moreover, the general infection is kept up by the local one. The disease germ attaches itself to the laryngeal mucous membrane, from which point by its rapid reproduction the whole system becomes speedily infected and the micrococci can be found in great numbers in all the tissues and fluids of the body.

Dr. H. C. Wood, in speaking of this matter before the Penn-

*Read before the Chicago Medical Society, January 5, 1885.

sylvania State Medical Association, last May, said, that Dr. Henry Formad and himself had been occupying their leisure time during the past three or four years investigating the subject of diphtheria; and when the attempt was made to infect the lower animals by using the material as obtained from an ordinary type of diphtheria as it appeared in Philadelphia, they failed; but when taken from those who were subjects of a malignant epidemic they invariably succeeded in infecting the lower animals; he also said it could be communicated from animals to man, the human subject.

They procured diphtheritic membrane, soaked it in water, then filtered it, and found the filtrate innocuous; while the residue was very poisonous and capable of producing diphtheria.

They also procured the membrane and cultivated the micrococci in soups, and found that they produced diphtheria with micrococci of the fourth and fifth generation; at least they were unable to distinguish the disease thus produced from diphtheria. Here, however, is an objection. They found in *ordinary saliva* a micrococcus, or plant, which cannot be distinguished from the micrococcus of the most malignant diphtheria; they were, as far as could be discovered, identical, and in everybody's mouth. They further noted a grade in the poisoning power. The micrococcus from a sound throat produced no poisoning, and the severity of the poison was directly as the virulence of the epidemic from which the poison was taken. Dr. Wood thinks that these researches prove that diphtheria is produced by micrococci that are present in every mouth.

They also conclude that in the majority of cases the disease was first local, the micrococci attaching themselves to the mucous membrane where they multiply and produce surrounding

inflammation, the "membrane becoming filled with micrococci they then force their way between the epithelial cells, the cells begin to die, and ulceration takes place; the mouths of the lymphatics open and the micrococci pass in. Early in the disease no micrococci are found in the blood, but after the constitutional symptoms have become severe, masses of them will be found in the vessels, and the plant invades the white blood corpuscles, which after a time will be found filled with micrococci; they will be found in the kidneys, in the capillaries, forcing their way between the muscular fibres of the heart and all over the body leading everywhere to destruction of tissue. Matter has also been taken from the discharge of puerperal metritis and from sloughing gangrenous ulcers and found full of microbes, which upon being inserted into animals produced a disease which could not be distinguished from diphtheria."

These are the conclusions of those who have spent several years in the scientific investigation of the subject, with abundance of material at their disposal, and would it not seem to disapprove the germ theory of the disease? We would not dispute the fact that microbes are in all diphtheritic membrane, but they are also present where there is no diphtheria, in sound throats as well as in septic discharges from other diseases, and are not found in the blood of diphtheritic patients "till constitutional symptoms have become severe."

If, as they affirm, "micrococci can be found in ordinary saliva which in no way differ from those found in malignant diphtheritic membrane," except possibly that they are inert, even though they may only be found in the saliva of those who frequent or inhabit the infected district, it would seem to prove that they alone are not responsible for the development of diphtheria; there must be *conditions for* their rapid reproduction which are not yet understood, and may it not be possible

that they simply find in this degenerated or septic condition of the fluids and tissues a good field for growth and development in an active state, and still not be the primary cause of diphtheria? Be this disease, however, purely local or general in its origin, be there micrococci or no micrococci as a primary cause for its development, the stubborn fact remains that in nine cases out of ten when the physician is first summoned to attend a case of diphtheria, he finds abundant evidence of general systemic infection, varying in degrees of intensity from simple circulatory excitement to the most profound degree of prostration found in septicæmia, and as such we are obliged to meet it.

A very severe form of diphtheria manifested itself in our community during the fall and winter of 1881 and 1882, commencing about the middle of September and continuing severe till about the middle of January, 1882. During the first six weeks of the epidemic I attended seven cases, four of which were mild in character, and readily yielded to ordinary treatment, the other three presented malignant characteristics, one died within twenty-four hours with croup as a complication, one died on the third day, and the third recovered after a protracted and debilitating illness.

My treatment in these cases was extremely free use of camphorated oil and turpentine, and application to the diphtheritic membrane every four or six hours with a camel's hair brush the following:

℞ Acid. Carbolici.....f. ʒi
Liq. Ferri Subsulph. .....f. ʒiii
Glycerin. .....f. ʒiv
M.

and during the interval directed frequent gargling with a saturated aqueous solution of chlorate of potash. Internally administered the following:

℞ Tr. Ferri Hydrochlor. .....f. ℥iii
Quiniæ Sulph. .....f. ℥i
Potass. Chlor. .....f. ℥i
Syr. Glycyrrhiz. .....f. ℥iiiss
M.

in doses to suit the age of the child, giving to a child of eight years one teaspoonful every three hours. This formed the basis of treatment, other remedies, diuretic, laxative, etc., being used as each individual case seemed to demand.

In the case which seemed malignant and recovered, powdered sulphur was used after the fourth day, in the throat and nasal cavities, being blown in through a goose quill every six hours, after cleansing with the chlorate of potash gargle.

There had been up to this time (Nov. 1) about twenty cases in our immediate vicinity with twelve deaths, other physicians, local and foreign, succeeding no better than I in controlling the disease.

My attention was called to a short article in the Oct., 1881, number of the *Boston Journal of Chemistry*, where a physician who had diphtheria himself, took by mistake a swallow of dilute alcohol, and was surprised when he recovered from the strangling to find that he had coughed up large masses of membrane and felt relieved. He continued its use in his own case and subsequently in his practice with good success. I also recalled an article in the *Eclectic Medical Journal* of Cincinnati, March, 1881, where the writer, after referring to the analogy of the diphtheritic fungi to that found upon stale bread, belonging to the family of the *penicillium glaucum*, quotes from "Raue's Pathology and Therapeutic Hints," as follows:

"Pieces of bread were taken, covered all over with a dense vegetation of *penicillium glaucum*. Then he poured upon

one a concentrated solution of nitrate of silver; upon another a solution of chlorate of lime; upon the third, a solution of caustic potash; upon a fourth, a solution of sulphate of copper; upon a fifth, chloride of iron; upon a sixth, corrosive sublimate; upon a seventh, spirits of camphor; and upon the last, alcohol. The alcohol at once caused all the fungous growth to be thrown down and totally destroyed; so did the spirits of camphor—converting them at the same time into an amorphous mass; but all the other substances did not seem to affect the fungus growth in the least."

Even though the diphtheritic fungi be of a specific nature and essentially different from those found upon mouldy bread, an opinion which it is natural for us to entertain, still the theory of applying alcohol for its destruction would remain the same.

Interesting experiments with diphtheritic membrane are also detailed in *Ziemmssen's Cyclopædia*, vol. 1, page 680, from which we infer that alcohol is the safest agent which can be used to destroy or render inert these micrococci. I say safest, because other agents which will destoy their activity are liable to produce injury to the patient if not used by skilled hands, and alcohol can only intoxicate, and in diphtheria seldom does that, even if used in great excess.

I determined to give a fair trial to the alcoholic treatment, and use dilute alcohol with chlorate of potash as a gargle, powdered sulphur dry in the throat, and the internal use of hot whisky sling or milk punch, strong as could be borne, and only to be limited by the amount which would be tolerated without producing intoxication, with other remedies, as the cases might require to maintain the proper secretions of the body.

As a result of this trial I can report that my succeeding twenty-eight cases were carried to a successful termination, with one exception; and in none of them was there used a brush or probang to the throat.

The details as to condition, symptoms and treatment of a few cases are here given.

Case VIII.—(First under alcoholic treatment.) B. J., aged 13, strong, muscular, healthy boy, was first taken sick at noon Oct. 31. Had been feeling usually well for the preceding few days and up to the time of attack, when he felt some nausea, backache, and had a severe chill. I saw him first at 7 P. M., and found him with a dark flushed face, skin hot and dry; complained of severe headache and pain in left tonsil, which was tender on pressure from outside, breath very offensive, tongue coated, edges purplish in color. Tonsils enlarged, with a depressed mucous patch on the left one, about three lines in diameter. This tonsil had a purplish appearance, which grew darker as it approached the edge of the ulcer, and this ulcer a greenish, dirty white color. Some coryza and obstruction to nasal passages.

Temp., 105°; pulse, 120, full and bounding; patient quite restless and at times delirious.

Diagnosis—Diphtheria.—Treatment: Locally, apply over each tonsil a cloth saturated with carbon oil, and as soon as the skin shows irritation, apply a thin slice of salt fat pork covered with pepper.

As a gargle:

℞. Alcohol.....f. ℥viii
Chlorate of potash.....f. ℥iii
Water.....f. ℥viii
M.

and gargle freely every half hour, and wash the mouth with the same before swallowing either medicine, food or drink; also, every four hours, blow powdered sulphur into the throat after using gargle.

Internally:

℞ Tr. verat. virid.
Tr. opii deodorat. .....āā, f. ʒss
Aquæ.....f. ℥iv
M.

one teaspoonful every two hours till sweating occurs or fever abates; an improved compound cathartic pill to be taken at nine o'clock.

Nov. 1, 7 A. M. No change in the condition except a spreading of the membrane on the left tonsil to about six lines in diameter, and a spot about three lines in diameter on the right tonsil, with a slight decrease of the blue tinge of the mucous membrane. There being no good whisky at hand, I ordered a strong hot alcohol punch every two hours and continue other remedies as before.

12, noon. Decided diminution of fever; membrane appears shriveled with the edges rolling towards the center. Having now procured some good rye whisky, I ordered it given freely in the form of milk punch or sling, hot as it could be taken.

8 P. M. Membrane becoming rapidly detached from the left tonsil, and that on the right one presents the same shriveled appearance as was seen on the left one at noon.

The veratrum mixture was now discontinued, but otherwise treatment was the same.

Nov. 2, 7 A. M. Temp., 99; pulse, 90. Membrane all gone from left tonsil and nearly gone from the right one. Continue same treatment.

8 P. M. Temp. normal. Tonsils present a healthy pink color, with no membrane visible, and this in forty-eight hours from time of commencement of treatment. I visited the patient the following day and then dismissed the case.

Case 9.—Carl E., age 7. Was called at 5 A. M., November 1st, to see him, and found him with temp. 105°, pulse 140, and delirious, face flushed, and the condition of tonsils and surrounding tissues the same as in the previous case. I ordered the veratrum and opium mixture every two hours, and all the hot, strong whisky sling, or milk punch, he could be induced to take, adding a little saturated solution of chlorate of potash to every wine-glass of punch given, with local use of oil and pork, as in previous case. During my temporary absence from town the parents became frightened and called in a brother physician whom I found there on my return at noon. He said: "Doctor, you have here a very malignant case of diphtheria, and unless you treat the throat locally and treat vigorously, you will lose the patient."

I protested against any change of treatment and continued with the case as I had commenced, crowding the whisky as much as possible. At 11 P. M. he broke out in warm perspiration, dropped into a quiet sleep, and from that moment began to improve.

On the morning of November 2d, the membrane had the same shriveled appearance as that described in the previous case, and at 7 P. M., thirty-eight hours after commencement of treatment, no vestige of membrane could be found on either tonsil. He recovered very rapidly and soon was out of my care, cured.

Case XI occurred in a child only thirteen months old. The condition seemed one of malignant character, as the others, and whisky was depended on as in the other cases, with the same results. This child took in thirty-six hours one pint of the best rye whisky without producing intoxication, but completely relieving the stupor in which the child was when treatment was commenced, and caused the membrane to shrivel up and become detached as in former cases.

These are typical of the severe cases treated during this epidemic, and all were treated in a similar manner, varying as the difference of age and surroundings demanded.

As before stated, only one case was lost of the twenty-eight treated by the alcoholic treatment. This occurred in a girl eleven years of age, of nervous temperament, who six months previous had had a severe attack of typhoid fever, from which she had not recovered her usual nervous energy; consequently, when attacked by diphtheria of a severe naso-pharyngeal character, it was difficult to maintain the strength to resist its ravages, and she died on the eighteenth day from paralysis of the heart.

During the month of July, 1882, I attended three cases of croupous diphtheria, two of which died on the third day. The third one was seen on the third day (having been under treatment two days), and it seemed impossible for life to be prolonged an hour. I, however, ordered:

℞ Hydrarg. chlor. cor. ..... gr. ii.
Tr. Aconit. .... m. x.
Aquæ ..... f. ℥ viii.
M. et S.

one teaspoonful every hour. The milk punch and whisky sling to be continued as before. I left the house with instructions that I should be sent for if the child lived till night that I might advise as to farther treatment. The next morning being in the same neighborhood I dropped in and was surprised to find the child running around the floor, dragging a broom after itself in great glee.

Within the past two years I have used more constantly the liquor ferri subsulph. with carbolic acid and glycerine (applying it to the throat with a camel's hair throat brush) instead of sulphur. And I think the results have been full as satisfactory. My sheet anchor, however, is alcohol in some

form in every stage of the disease. Veratrum virdide and opium in the congestive condition, ferruginous tonics during convalescence if required, counter-irritation over the tonsils and careful observance of all the surroundings of the patient as to temperature, ventilation, drafts of air, etc. Success in the treatment depends as much upon attention given to the surroundings of the patient as upon the details of medication.

With this line of treatment the cases are brought to the convalescent stage quicker and with less general debility than where severe caustics are used, and the severer forms of treatment.

7725 Greenwood Ave., Grand Crossing, Ill.

EDITORIAL.

"LET NOT THE COBBLER GO BEYOND HIS LAST."

One of Chicago's most celebrated divines has recently made his *début* as a medical writer. He has selected as the medium, through which his pathological lucubrations shall meet the public ken, a weekly magazine, devoted to "Literature, Government, Science, and Art."

With characteristic modesty, he has chosen "Cholera and the Nervous System" as his theme. The selection of this particular magazine is judicious, since its contributors are elected exclusively from the ranks of the *illuminati*. Lord Chief Justice Coleridge has recently addressed an autograph letter to one of the chief editorial writers on the staff. Coleridge has read, "constantly," "week by week," "with interest and admiration," this paper. Then the topic is peculiarly felicitous. The subject is of vital importance. Koch, Weigert, Pasteur, Klein, Klebs, Perls, v. Recklinghausen, Birch-Hirschfeld, Virchow have studied the pathology and and therapy of this strange disease for years. Up to the present time, however, the etiology, to say the least, is obscure, and treatment is not always successful. Our esteemed contemporary has arrived at clear, distinct, and adequate knowledge, both in regard to the morbid processes as well as the curative powers of certain remedial agents.

After a brief exposition of that method of medication, termed

the "metaphysical treatment," the writer alludes to the theory of cholera, propounded by Dr. John Chapman, of London. "The base of the brain becomes disordered by heat or by some unknown influence in the atmosphere, and from this abnormal action of the spinal cord, the secretions become so redoubled that the fluids which support life are carried away as with a flood." "The disease is no more contagious than is ague or dyspepsia." "If the disease finds you, go to bed at once, and let the helping hands, if there are any, apply a long, narrow bag of ice to your abnormal and mischief-making spinal column, and perhaps you will live to swell the much needed *data* as to the best method of treating cholera."

We are told that Apelles, after the completion of a picture, was accustomed to expose it to the view of passers-by, hiding himself meanwhile in the vicinity, in order to hear the criticisms of the spectators. One day a shoemaker came along and criticized the number of ties upon the slipper of the painted figure. Apelles, recognizing the justness of the criticism, corrected the error. Emboldened by his success, the cobbler, on the succeeding day, passed certain strictures upon the contour of the leg. The indignant Apelles immediately put forth his head and requested the cobbler to confine his attention to the slipper. Hence arose the expression: "*Ne sutor ultra crepidam.*" "Let not the cobbler go beyond his last."

NEW REMEDIES.

Professor H. Senator, in a lecture delivered Nov. 20, 1884, before the Society of the Charité Physicians (*Berliner Klinische Wochenschrift*, Jan. 5, 1885), has expressed his views as to the therapeutic value of certain exotic remedies, which are employed, to a greater or less extent, by American physicians.

He has tried, on an extensive scale, the tincture of *cascara sagrada*, as prepared by Messrs. Parke, Davis & Co., and expresses great satisfaction with the results. In physiological action it deserves a place between rhubarb and senna. It has the advantage over both of these remedies of producing an effect in smaller dose.

Euonymin, derived from *evonymus atropurpureus*, is referred to the list of cholagogue cathartics, allied to podophyllin.

He ascribes decided hypnotic qualities to the extract of *piscidia erythrina*. It is a more reliable remedy than paraldehyde or cannabin. The remedy is especially useful in migraine. It does not, however, produce so sound sleep as chloral or opium. *Muriate of cocaine* has produced, in Dr. Senator's hands, transitory anæsthesia of the mucous membrane of the rectum, urethra and bladder, in a variety of pathological conditions. In one case of *tabes dorsalis*, cocaine suppositories relieved the most violent, boring pains in the rectum, to which Westphal has recently called attention.

Oil of wintergreen possesses few advantages over salicylic acid in the treatment of articular rheumatism. It may be exhibited when the patient is averse to salicylic acid. When given in doses sufficient to control disease, it is productive of all the disagreeable symptoms of salicylic acid.

Picrotoxin was exhibited to control night sweats in forty cases of tuberculosis. In two-thirds of all the cases, the desired effect was observed.

Agaricin is also an effective remedy in the night sweats of phthisis. In large doses, however, it causes diarrhœa. It is also very expensive.

Both picrotoxin and agaricin are comparable in their action to atropine.

In two cases of *tænia mediocanellata*, *pelletierine* proved

effective. In one case the worm and head were expelled without doubt, in the other case, with a high degree of probability. The cost of the remedy is so great that *filix mas* will not be immediately superseded.

PHOSPHIDES AND SULPHIDES.

Messrs. Gale and Blocki (of Chicago), on account of the innumerable complaints of the phosphides and sulphides in pill form, have been led to investigate the cause.

Without entering into the details of their experimental processes, they make the general statement that the fault of these preparations is that they are pills.

"No phosphide or sulphide, especially sulphide of calcium and phosphide of zinc, should ever be dispensed in pill form, as it is a chemical impossibility to moisten either of these without setting free, and thus losing, the very element particularly desired, and to make pills for gelatine or sugar coating, it is absolutely necessary to use a moist excipient to get a mass."

"Our experiments convince us that the best method of administering these drugs is by triturating them with a small quantity of powdered elm bark and *capsulating dry*."

LITERARY NOTICES.

Owing to the illness of Dr. Albert H. Smith, of Philadelphia, Dr. E. C. Dudley, of Chicago, has been invited to contribute an article upon "Displacements" to Pepper's "System of Practical Medicine, by American Authors."

The editor is to be congratulated upon this accession to the ranks of eminent American practitioners, who are already enrolled.

Messrs. P. Blackiston, Son & Co., of Philadelphia, are about

to publish a very important medical book, entitled "Clinical Studies of Diseases of the Eye, including the Conjunctiva, Cornea, Sclerotic, Iris, and Ciliary Body," by Dr. Ferd. Ritter von Arlt, *Professor der Augenheilkunde in Wien*, translated by Dr. Lyman Ware, Surgeon to the Illinois Charitable Eye and Ear Infirmary; Opthalmic Surgeon to Presbyterian Hospital and Protestant Orphan Asylum, Chicago.

ERRATA.

We desire to call attention to the following typographical errors, occurring in the "Letter from Wiesbaden, Germany," appearing in the columns of our last number. On page 30, read "Taunus range" for "Launees range"; on page 33, read "irresistible" for "insensible," "springs" for "shrines"; on page 34, read "cures" for "caves," "regimen" for "*régime*"; on page 35, read "possibly thus" for "possibly this"; on page 37, read "du Bois-Reymond" for "Dubois Reymond."

Book Reviews.

Holden's Anatomy. *A Manual of Dissection of the Human Body. By* Luther Holden, *late President of the Royal College of Surgeons of England; Consulting Surgeon to St. Bartholomew's and the Foundling Hospital. Fifth Edition. Edited by* John Langton, *Surgeon to and Lecturer on Anatomy at St. Bartholomew's Hospital; Member of the Board of Examiners, Royal College of Surgeons, England. Octavo, pp. xix, 886. Philadelphia:* P. Blackiston, Son & Co., 1885. *Chicago:* Jansen, McClurg & Co.

The revised edition of Holden's Anatomy supplies a long-felt want of practitioners and students. The order of dissection has been materially changed, new illustrations have been added, and recent progress in anatomy, more particularly as regards the nervous system and the organs of special sense, has received due attention. As a clear, distinct, concise guide to dissection, the book has no equal in the English language.

Lectures on the Principles of Surgery. *Delivered at Bellevue Hospital Medical College. By* W. H. Van Buren, M.D., LL.D. (Yalen), *formerly Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College, etc., etc. Edited by* Lewis A. Stimson, M.D., *Professor of Physiology and Clinical Surgery in the Medical Department of the*

University of the City of New York. Octavo, pp. vii, 588. New York: D. APPELTON & Co., 1884. *Chicago:* JANSEN, MCCLURG & Co.

Dr. Van Buren, for a period of thirty-five years prior to his death, occupied a phenomenal position as a teacher of surgery. It was a matter of general regret, when he ceased from labor, that no imperishable form had been given to the charming lectures which, students of the Bellevue Hospital Medical College and Medical Department of the University of New York had heard with so much attention and profit Dr. Lewis A. Stimson has conferred a lasting benefit upon the profession by the conscientious discharge of his duty as editor of the late Professor Van Buren's lecture notes. As a tribute to the memory of a great American surgeon, and as an invaluable contribution to the literature of the subject, "Van Buren's Lectures on the Principles of Surgery" will find an honored place in every well-selected medical library.

FOREIGN CORRESPONDENCE.

LETTER FROM ITALY.

Messrs. Editors—During this century no remedy has attracted such great attention as cocaine. Its remarkable properties have been praised by every medical man in all the countries of the world. All the medical journals are enthusiastic in their reports, and the study of this alkaloid is the most important question of the day. At the risk of being a repeater, I have availed myself of a very interesting review by Prof. Rummo (*Riforma Medica*), to present to your readers what is known regarding cocaine and its effects. As soon as Charles Koller, of the Hospital of Vienna, communicated, at the Ophthalmological Congress of Heidelberg, his experiments made in the laboratory of Stricker, regarding the anæsthethic action of cocaine on the cornea and conjunctiva, every ophthalmologist and the most esteemed experimenters of all nations procured the remedy, and with a febrile activity they studied its physiological action and therapeutical properties. They are all unite to affirm that the property of cocaine, to render absolutely insensible the cornea, marks a discovery of the highest importance in the ocular therapy.

Cocaine (C_{17} H_{21} Az O_1) is a crystallized alkaloid, extracted by Niemann in 1859 from the leaves of coca (erythroxylon coca), a plant of South America. The annual consumption of this plant is over fifteen millions of kilograms, which represent a sum of about eight millions of dollars. Cocaine crystal-

lizes in small colorless prisms, slightly soluble in water, soluble in alcohol, and most soluble in ether; has a slight bitter taste, and a reaction strongly alkaline. The muriate is the salt most frequently used. This salt is soluble in water in the proportion of 5 per cent. without the addition of any acid; but the solution remains opalescent, becoming clear by filtration. Merck has also prepared the salicylate and the bromhydrate of cocaine.

Before the discovery made by Koller, several authors, as Woehler, Rossier, Demarle, Schroff, Loessen, Lippmann, Moreno y Maiz and recently Von Aurep (1880) and Sigmund Freud (*Centralblatt f. Therapie v. Heitler, 1884*) had already studied the physiological and chemical action of cocaine, but no one had spoken regarding its anæsthetic action on the cornea. The experiments of Schroff had shown that the injection of five to ten centigr. of cocaine in the subcutaneous connective tissue of the rabbit produced tetanic and epileptiform convulsions, great dilatations of the pupils, increased frequency of the respiratory acts and some cardiac contractions. It was also known that cocaine produced a general anæsthesia, and when placed in contact with the tongue it caused a complete anæsthesia. Cocaine was used by Coupard and Fauvel in 1870 and 1880 as an anæsthetic substance of the nasal mucous membrane. These effects inspired the idea in Koller to try cocaine as an anæsthetic of the cornea and conjunctiva. He made his first experiments in animals, and by dropping a solution of muriate of cocaine in the eye, he was enabled to produce a complete insensibility of the cornea and conjunctiva; a similar result he obtained in an inflamed cornea (traumatic keratitis). The instillation of cocaine in the eye produced also a diminution of the clearness in the vision of the objects, a paresis of accommodation, and a dilatation of the pupil. The mydriasis reaches the highest grade in the course of the first hour, di-

minishes during the second to gradually disappear in the successive hours. Koller reached these conclusions: 1st, the anæsthetic action of cocaine is cumulative; that is, if the remedy is instilled during the moment in which the first anæsthesia disappears, there is obtained a second insensibility of greater duration than the first; 2d, the action of cocaine is essentially local; that is, it acts more powerfully in the point of application and in its surrounding parts.

In the ophthalmological clinic of Prof. Reuss, Koller tried the action of cocaine with two objects: as a narcotic in the painful ocular diseases, as an anaesthetic in ocular surgery. As a *narcotic* he obtained favorable results, especially in the corneal and conjunctival affections, in case of iritis accompanied with photophobia and pains. It is to be noted that the pains and the photophobia returned two or three hours afterwards, and that therefore the remedy is to be periodically applied. Cocaine had no curative property in these affections. Again, the pain produced by the cauterization of the lids with the nitrate of silver is notably diminished, sometimes totally, by a previous instillation of cocaine.

Cocaine possesses a greatest importance as an *anæsthetic* in the surgery of the eye. By its use many operations can be performed on the eye, such as the extraction of foreign bodies from the cornea, without the least resentment on the part of the patients, operations of pterygium, cauterization of ulcers of the cornea, iridectomy, puncture of the cornea and the operation of cataract.

The method of Koller in the clinic of Reuss for the dropping of cocaine in the eye before the operation, is the following: half an hour before the operation, drop, every five minutes, a solution of five per cent. (two drops at a time). The instillation is practiced while the patient lies horizontally on the bed.

Vulpian, surprised by these marvellous results of Koller, and desirous of studying the general action of cocaine, made several experiments which he communicated to the Academy of Sciences of Paris. He found that the anæsthetic action produced by the general action of cocaine is inferior to the one obtained by a local way; by injecting the remedy in the veins there is produced a dilatation of the pupils and a certain degree of exophthalmos; these phenomena are analogous to those produced by the electrifying of the cervical column of the great sympathetic. The anæsthetic action of cocaine in the mollusks is not decisive. The toxic effects are clearly manifested, and the insensibility is produced in the crustaceaus.

F. Frank communicated to the Biological Society (Nov. 29, 1884) his conclusions on cocaine: 1st, cocaine, which suppresses the sensibility to pain and to the touch, does not suppress the cortical excitability; 2d, cocaine suppresses the excitability of the dura mater; 3d, cocaine has a transitory effect and does not determine any phenomena of local irritations.

Laborde has noticed that cocaine, injected in the subcutaneous connective tissue or in the veins of warm-blooded animals, in small doses, produces agitation or restlessness and analgesia of the mucous membranes of the nose, pharynx, tongue, etc.; in high doses, tetanic and epileptiform convulsions.

Arthur Beeson, of Dublin (*Lancet, Oct. 1884*), Marcus Gunn, Koenigtein, Hock, etc., have confirmed the physiological and therapeutical experiments of Koller.

In France the question was studied by eminent oculists with the greatest interest. Among these are Panas, Abadie, Landolt, Vacher of Orleans, etc. Panas, in one of his communications to the Academy of Medicine of Paris, confirmed, in a great part, the results of Koller, and said that the fugitive mydriatic action of cocaine could be utilized for the ophthalmo-

scopical exploration of the fundus of the eye, and that in the deep operations of the eye the patient notices only a slight pain in the excision of the iris. He also noted that the inflamed eye is more or less refractory to the anæsthetic action of cocaine.

Abadie (*Bull. gen. de Therap., 15th Nov., 1884*) could not notice any paresis of accommodation, as all patients could read the finest characters at a normal distance. Moreover, he noticed the great benefits of cocaine in the operations and in the painful affections of the eye, excepting the section of the iris and the extirpation of the eye, in which the patients frequently feel the greatest pains notwithstanding the previous application of cocaine. Landolt, (*Archiv. d'Opht., No. 5, 1884*) in the deep operations of the eye, attempted to instill the cocaine in a button-hole incision, made in the conjunctiva. When the remedy is injected in the lachrymal ducts, it renders more tolerable the passage of the sound.

Vacher (*Gaz. Hebd., No. 48, 1884*), in ocular operations, has practiced both the direct instillation and the subcutaneous injections on the course of the sensitive nerves of the region, and by so doing he observed that cocaine has an action more profound and more lasting.

But the generic physicians could not remain idle after noticing this great progress obtained by the oculists with the use of cocaine, and have tried the effect of cocaine in the affections of the different organs of the body. So far, we know that this remedy has shown its anæsthetic action on the oral, pharyngeal, laryngeal, nasal, urethral and rectal mucous membranes.

Dujardin-Beaumetz has calmed the violent gastric pains with this remedy. He sustains that cocaine can be used with benefit in the morphiomaniacs. Injected under the skin, it produces effects analogous to those of morphine, without the

grave inconveniences of this alkaloid. Vacher has used cocaine in the extirpation of teeth, by wetting a piece of cotton with a 0.1 solution and by introducing it in the bottom of the carious tooth. The extirpation, made after ten minutes, seemed less painful.

We can readily see that cocaine is destined to occupy an important position in therapeutics. So far, the best results have been obtained in the ocular surgery, but we may affirm that the muriate of cocaine is destined to substitute chloroform and atropine.

The price of this alkaloid at present is very high, but will gradually decrease as its consumption becomes greater.

A. LAGORIO, M. D.

Chiavari, December 31st, 1884.

LETTER FROM EDINBURGH.

Messrs. Editors:—I believe I promised at Aberdeen to send you a few observations again when I reached London or the continent, and though I have not as yet remained in either of the latter sufficiently long to give you much of interest, I may yet be able to say something of interest of Scotland, where I have spent most of my time.

Of Aberdeen I have already spoken in my last letter written from there, and there is little to add. My work in the University of Aberdeen was exceedingly satisfactory to me.

Leaving Aberdeen December 26th, my next visit was to Edinburgh, where I went direct, more especially to visit the University.

One naturally expects that an institution which has given to the world such names as Grainger Stewart, Sir J. Y. Simp-

son, James Syme, Joseph Lister, Sir Robert Christison, and many others scarcely less widely known, would attract numbers of students from all over the world. But, I confess, I was scarcely prepared to find that the University of Edinburgh teaches as many students as all the London colleges and hospitals combined. Such, I believe, however, is the case. The University of Edinburgh, this season, has within its walls some three thousand (3,000) students, nearly two thousand (2,000) of whom are studying medicine. At first thought it would seem almost impossible to furnish teaching facilities for such a number of students in one institution. The extra-mural system of teaching is permitted in four classes out of the course, which not only relieves the classes from extra crowding, but also, through the resulting competition in lectures, tends to the attainment of a standard of greater excellence, not only among the outside teachers, but those, also, who occupy the regular chairs in the university.

Extra-mural lectures, I would say for the benefit of those not familiar with the term, means simply lectures given by an independent teacher outside, and who has no connection whatever with the university; and, as before said, a student may pursue his studies in four branches of the course with extra-mural teachers.

I met one extra-mural professor of anatomy who has three hundred and fifty students this season. One sees in the University of Edinburgh students from all over the world, of nearly every race and color, but, singular at first thought to note, nearly one-third of the whole are from England.

This latter, I am inclined to think, is due to the very high standing of the Scotch schools of medicine in the United Kingdom, or at home, in other words. It will be remembered that in Scotland there is no such thing as a half qualification;

the curriculum embraces all the branches of medicine, surgery and obstetrics, while in England one goes to the college of physicians for his qualification in medicine, and to some other place for a qualification in surgery.

The new medical department of the University of Edinburgh is, no doubt, one of the finest institutions devoted to medical education in the world, and this has only been occupied now two years. Great expense and outlay has been and is still being carried on for purposes of original work. I am indebted to Professor Greenfield, Professor of Pathology, and Assistant Professor Woodhead, for the kindness of a very complete examination of their department, as well as the anatomical department of the University, on New Year's day, when, ordinarily, they are not open. The enthusiast in the "germ theory" might here revel in a veritable elysium of of microbe cultures in all their stages. It struck me, however, that in Edinburgh there was far less enthusiasm as to their etiological relations to disease than there appears to be in Germany; not that there was less interest in the subject as a pathological study, for I found quite a large room full of cultures in various stages.

The curriculum in Edinburgh is precisely the same as that at Aberdeen, of which I have already spoken in my last, and hence need not refer to it again.

It would be simply impossible for me, in the necessary limits of a letter, to give the details of the departments of this mammoth University. Its library contains 145,000 volumes, and originated in a bequest in 1580 by Mr. Clement Little, Commissary, Edinburgh, a learned citizen, and brother of the Lord Provost, who left his library to "Edinburgh and the Kirk of God." Many illustrious citizens have since bequeathed their libraries to the institution, among them the poet Drummond, of Hawthornden. In addition to the 145,000 volumes, about

2,000 volumes of MSS., many of great interest and value, and some valuable pictures and busts, are kept in the library and senate hall.

The Museum of Arts and Sciences is well worth careful examination; some of the departments are very complete, among which, especially, is that of ornithology.

Among the many pleasant memories of my visit to Edinburgh, none will be remembered longer than the great kindness and courtesy shown me by Grainger Stewart. Though his kindness to strangers is proverbial, I scarcely expected from a man, whose time is so valuable, that so much of it would be so cheerfully spent in hospitality to visitors.

The Royal Infirmary at Edinburgh, situated directly opposite the new Medical Department of the University, to the west, is a magnificent hospital, in no wise behind the great St. Thomas' at London. Essentially modern in all respects, built on the pavilion system, with spacious grounds, it contains about 600 beds, and its staff of attendants are the most careful in every detail I have yet met. It is unnecessary to say that the Royal Infirmary is not in any way *politically* conducted. The Royal Hospital for Sick Children, directly adjoining, to the east, with over a hundred beds, is also a very well conducted institution, and I was glad to find there as resident physician Dr. Anglin, a graduate of my own university, as well as fellow townsman of my native city.

I found my friend, Dr. Anglin, organizing in Edinburgh a Trans-Atlantic Club, the objects of which are:

First. That the members might meet at stated intervals for mutual improvement, and at all times have the opportunity of reading home papers and journals.

Second. To extend to new-comers, on their arrival in Edinburgh, a hearty and home-like greeting, so that they may not

feel themselves strangers in a strange land, and to supply them promptly with all necessary information to aid them in their work.

I regretted that my visit to Edinburgh necessarily occurred during the mid-winter vacation, and hence I was deprived of the pleasure of hearing any of the lectures. But I may yet return for a week to Edinburgh before my return to America.

I visited, I suppose in common with most of those who go to Edinburgh, the West Port, at the west end of the Grass-market, which has acquired notoriety in connection with the series of murders committed in 1827–28 by the miscreants Burke and Hare, for the purpose of selling the bodies of their victims for dissection. I went into the cellar where these scoundrels carried on their work, and was shown over the whole place in detail.

I left Edinburgh Jan. 3d, on my way to the Continent, and stopped at Harrowgate two days with my friend Dr. Geo. Oliver. Harrowgate, it will be remembered, is the principal watering-place in the north of England. It reminds one very much of an American city, not only from its buildings, but also its roomy streets and spacious public grounds. Two hundred acres of land is reserved in the city, donated by the lord of the manor for public grounds—a privilege enjoyed by few cities in England. There are some eighty springs at Harrowgate, mostly sulphurous, and about 80,000 visitors go there each season. One spring contains chloride of iron (unusual) in a very large proportion. Dr. Oliver issues a new edition of his book on "Bedside Urinary Tests," in a few weeks, and from advance sheets which I had the pleasure of seeing, I may say that it will contain many things both new and interesting in the way of urinalysis.

My next visit was to Manchester, where, of course, I met Dr.

Roberts, and spent an agreeable evening at his house. One expects on meeting the authors of books one has read ten years or more ago, to find men of advanced years—quite old, in fact; at least such were my expectations, but in nearly every instance I have been agreeably disappointed. Dr. Roberts, for instance, and Grainger Stewart, are both men in their prime, well preserved, and not over 47, either of them, with very few gray hairs, and still doing a large amount of literary and professional work. The former (Dr. Roberts) informed me that he had just sent the last sheets of his new edition to the press the day I saw him, and Grainger Stewart presented me with a copy of his work on "Nervous Diseases," issued the same week of my visit to Edinburgh.

Again my stay in London was only transient, and I regret I am unable yet to give you anything of interest from the English medical center, and a two days' sojourn in Paris does not furnish sufficient experience to write from, hence I must reserve both for a future occasion.

CHARLES W. PURDY.

Paris, Jan. 9, 1885.

TRANSLATIONS.

COCAINE AND ITS SALTS. *Translated by* WM. M. SMITH, M.D.

$C_{17}\ H_{24}\ NO_4$ (Lossen).

Cocaine is an alkaloid of the coca leaves (Erythroxylon Coca Sam.), which was isolated by Niemann in 1860. In 1862 Lossen found a second, volatile, base, hygrin, which has been little investigated up to the present time; but it is apparently weak, and without the characteristic action of the cocaine. Other extracts of the leaves are: Ecgonin, coca tannic acid, and a peculiar wax. The cocaine crystals belong to the monoclinic system; they melt at 98° C., dissolve easily in alcohol, still more easily in ether, but only in 704 parts water at 12° C. The salts of cocaine, on the contrary, are readily soluble in water.

The first intelligence of the action of coca, taken internally, was furnished in the 16th century (Dr. Monardes, Sevilla, 1569). In 1749, the plant was brought to Europe, described by Jussie, and named *Erythroxylon coca*, by Lamarck. Tschudi, Markham, Poppig, and other investigators who traveled in South America, observed that the natives chewed the coca leaves when they wished to neutralize the effects of over-fatigue. The Indians macerate the leaves with ash of chenopodium quinoa, in order to eliminate the tannic acid by means of the alkali, and to free the alkaloid.

I produce the cocaine-alkaloid pure, as also its combinations, with muriatic acid, salicylic acid, hydrobromic acid, tartaric

acid, and citric acid. Since the production of the cocaine has been accomplished, it is believed that in this substance the active principle of the coca leaves has been found.

At first it seemed probable that a similar action might be found as a quality of one of the analogous alkaloids, such as caffein, thein, or theobromin. However, nothing has yet occurred to support this idea.

Cocaine acts upon the nerve centers, but also upon other nerve regions—in small doses, as a stimulant; in large ones it causes paralysis. It kills warm-blooded animals, by arresting pulmonary action, though they are less affected by it than the cold-blooded animals. Although no doubt exists, therefore, that cocaine is a poison, still its toxic qualities are relatively small, and its action is not cumulative.

Schroff, who in 1862 made the first experiments with the remedy, saw, in puppies, after a dose of 0.05 grm. *per os.*, fluctuating respiration and transitory mydriasis. The same dose, administered subcutaneously, caused the death of the animal experimented upon, with epileptiform convulsions and very decided mydriasis, which immediately disappeared as soon as death occurred. With frogs, the application of 0.001 grm. is followed by complete loss of the power to move; *dosis lethalis* 0.002 grm.

According to Fronmüller, who, in 1863, examined the narcotic action of cocaine, 0.03 to 0.33 grm. administered to man internally produced no important effect; in one case, sleep intervened. Pulse and breathing were somewhat accelerated at first, later were subnormal. On one occasion, when taken with suicidal intent, 1.5 grm. cocaine was not followed by any serious effect upon the health. The fatal dose for man, therefore, must be very great if it cannot be established that the preparations of that date were not pure cocaine.

So far as the coca infusions have been experimented with, it may be considered that the leaves contain between 0.02 to 0.2 per cent. of cocaine. Of my cocaine mur. sol., 0.05 grm. appears to be an effective dose for man.

After subcutaneous injection of an attenuated solution of cocaine in man, a sensation of warmth is felt at first, then loss of sensation in the region about the injection; finally, a circumscribed redness of the skin, and after about thirty minutes, a return to the normal condition. Applied to the tongue, it benumbs the nerve sensibility of the same.

Quite lately, Dr. Th. Aschenbrandt, in the No. 50 (1883) of the *Deutsche Med. Wochenschrift*, has appeared as a champion of the cocaine, in that he accredits it with most remarkably beneficial qualities in great debility, particularly that produced by diarrhœa. During the last month, Prof. Dr. E. v. Fleischl, in Vienna, and Dr. Sigm. Freud, Physician in the General Hospital in Vienna, have diligently occupied themselves with this preparation. The former, particularly, has determined that the cocaine, by hypodermic injection, has proved itself to be an invaluable adjuvant against the continued use of morphia; also, against a single fatal dose. This fact alone should give the remedy an enduring place among the treasures of the physician.

Those above referred to have given the medicine in the form of its muriatic acid combination, in doses of 0.05 to 0.15 grm., and as much as 0.5 grm., in a watery solution, has been given per day. Dr. Freud has made a number of experiments upon himself and others, and besides a constant increase in physical strength, he has recognized a true coca-euphrasy. The feeling of hunger and the want of sleep disappear during the action of the coca.

With the attempt, in the following lines, to answer the question as to the therapeutic worth of the cocaine, I must likewise

remark that up to the present time only the foundation can be given for future research. To this end, the remedy will be diligently experimented with in the various fields of medical science, so that it may be hoped that decided results as to its real worth may be obtained at an early date.

Cocaine is a stimulant which is peculiarly adapted to elevate the working ability of the body, without any dangerous result. Its action is stronger than that of alcohol. Its use for this purpose in marching or mountain climbing is self-evident. The dose in such cases may be from 0.05 to 0.01 grm., repeated as required.

It is still an open question as to whether mental labor may be carried on a greater length of time or made lighter by its use or not. Even so must it remain undetermined for the present as to whether the psychiater will be able to make use of cocaine for the purpose of inducing a continued elevation of the powers of the nerve centers. The subcutaneous use of cocaine in a daily dose of from 0.0025 to 0.1 grm. has been applied for months to patients suffering from melancholy, with some definite results.

Cocaine is a stomach remedy, in so far that after debauches in eating and drinking, it has produced rapid amelioration, and a normal longing for food, when used in doses of from 0.025 to 0.05 grm.

In atonic weakness of digestion and nervous disturbances of the stomach, a lasting return to the normal condition may be attained from time to time by the use of cocaine.

Also in cachexia is the continued use of cocaine recommended: in phthisis, great anæmia and wasting fevers. Further threatened mercurial cachexia from the continued use of quicksilver has been avoided by the incorporation of cocaine.

In any event, cocaine has its greatest future in morphia, and

perhaps, also, in alcohol-abstinence. An American, W. H. Bentley, published in 1878 the observation that coca may paralyze the morphium hunger of the opium-eater. If all that has been recently published in this connection should be confirmed, the remedy is of incalculable worth. Relapses do not occur; on the contrary, the disuse of the coca may take place promptly at the proper time without a return of the morphium hunger. Depression and nausea do not occur during the cure; diarrhœa and chills are the only symptoms observable.

In case of gradual or long-continued withdrawal of opium, decreasing doses of morphia and increasing doses of cocaine are given. In cases of absolute and sudden abstinence, doses of 0.1 grm. are injected as often as the morphium hunger is felt. Confinement in institutions become quite unnecessary with this method. Dr. Freud, who, with others, saw such a case, after ten days cocaine treatment (0.1 grm. subcutaneously three times per day), pass into positive convalescence, is of the opinion that a direct antagonism exists between morphium and cocaine.

The treatment for the alcohol habit is far more difficult. The first experiments date also from America, and seem to have turned out favorably.

The remedy has also been recommended as an aphrodisiac, and Dr. Frend has undoubtedly observed sexual excitation occur after the use of cocaine.

As already remarked, as soon as cocaine comes in contact with the mucous membrane it produces a transitory loss of sensation of the same. Therefore not only attempts to cure certain laryngeal and throat affections are made, but it is hoped that in operations in the larynx it may be employed as a local anæsthetic. An important and obviously frequent employment of cocaine seems to be assured in the field of ophthalmology.

On the 15th of September, at the meeting of the Ophthalmological Society in Heidelberg, the experiments of Dr. Koller, instituted in Vienna, were discussed. Dr. Koller has experimented on the eyes of animals, also upon his own, a number of times, and has found that immediately after dropping in a 2 per cent. solution of cocaine mur., a brief burning occurs, continued for not more than a half minute, which is soon succeeded by an uncertain feeling of dryness. The opening of the lids of the experimented eye appears wider; reflex action, which otherwise occurs upon approaching the cornea, motion of the head, of the lids, and shrinking back of the eyeball, disappears. In this condition a small scoop can be passed over the cornea without producing an unpleasant sensation; or the conjunctiva bulbi may be taken up with the forceps.

The anæsthesia of the eye lasts about ten minutes, though lack of sensation may persist some hours. Twenty to thirty minutes after the instillation the pupil dilates and returns to its normal state in a few (say twelve) hours. A slight, easily-overcome paralysis of the accommodation during this time is the only abnormality observed. As to the rest, the functions of the eye remain intact.

Dr. Koller has determined the anæsthetic action of the cocaine in animals in which he had produced a keratitis by irritation with a foreign body. He prognosticates a future for the cocaine in the removal of foreign bodies from the cornea, and in greater operations (cataract-extractions, *iridectomy*), or as a narcotic in corneal and conjunctival affections. Which salt of cocaine can be used to the greatest advantage in eye-practice will be very shortly determined.

It remains to be said that the experiments, the results of which I have here reported, have been made, without exception, with the preparations brought into commerce under the

name of "*Cocain mur. solut. Merck;*" only for these are the doses and action, as above stated, to be relied upon.

E. MERCK.

Darmstadt, October, 1884. — *Klinische Monatssblätter für Augenheilkunde, Zeherder.*

TRANSLATIONS. *By* A. LAGORIO, M. D.

New Facts About Antipirine. — Rauk (*Bulletin Gén. de Therap.*) has employed the new remedy, antipirine, hypodermically, to avoid the vomiting which is produced in some subjects when used internally, and from his observations he has drawn the following conclusions: 1. Antipirine is a prompt and a sure antipyretic in all febrile diseases, and especially in pneumonia, pleurisy, typhoid fever, acute rheumatism, erysipelas and tuberculosis; moreover, it does not produce any notable bad effects. 2. When used hypodermically, antipirine lowers the temperature more rapidly than when used internally. 3. To produce a lowering of the temperature by the hypodermic method, smaller doses are needed; two grams have been sufficient, while internally four to six grams must be given to have the same effect. 4. The best solution for the hypodermic use is that of 1 gram of antipirine in 50 centigr. of water. 5. This method does not produce any local nor general disturbances. 6. This method is always preferable to the way of the stomach (except in some cases, as in children or in feeble individuals), because smaller doses are used and the vomiting is avoided. 7. It seems that the remedy, antipirine, is destined to a great therapeutical future, its effects being sure and rapid, and the price not high.

The use of this remedy by other experimenters has always confirmed the results of Filehene, and Rauk-Biermer obtained

splendid effects in several febrile diseases, (pneumonia, smallpox, erysipelas, etc.). Dr. Alexander gives great credit to this remedy in typhoid fever and phthisis (*Breslauer Arztlizeitschrift*). Naunyn, of Koenigsberg, praises the good effects of antipirine in phthisis and in typhoid fever.

Generally the lowering of temperature commences after taking the first dose. Having reached the maximum of the lowering, this state will last generally five hours. The rise is made without any chill (kairine produces it). In no case any bad effect was noticed, although some patients took large quantities; one took 49 grams in eight days; another, 51 grams; a third, 15 grams in 24 hours. This shows that large doses can be taken without danger. The remedy has been impotent in the control of the paroxysms of intermittent fever.

Dr. Alexander, in a recent communication, referring to the new results of Biermer, at Breslau, is in some points in contradiction with Rauk. He is said to have been obliged to discontinue the hypodermic injections on account of the pain and abscesses produced by this process, while Rauk asserts that he has never had such accidents. To avoid these inconveniences, he administered the remedy in enemas: two tablespoonfuls of a solution $\frac{1}{5}$ in 200 grams of water, repeated every hour, till a sufficient lowering is reached.

Prof. Riegel, of Giessen, to prevent the sweats frequently produced during the lowering of the temperature, gives two pills of agaricine of 0.005 gram. about a quarter of an hour before the first dose of antipirine. Atropine acts in the same way. (*B. Kl. Woch.*) Penzoldt and Sartorius have tried it in 21 children of different ages, in 18 cases of pneumonia, 1 of erysipelas, 1 of scarlet fever, and 1 of diphtheria.

In the beginning, as a precaution, the dose for children will be as many decigrams (less one or two) as the years of the

little patient, viz.: five decigrams for a child six years old. They take the remedy willingly when mixed with syrup. The effect is also good when given in clysters.

Tannate of Cannabine.—Tetanus-cannabine is a crystallized substance extracted from cannabis indica by the eminent Prof. Mathew Hay, in Scotland. It is known that this tetanus-cannabine, possessing most potent toxic properties, resembles strychina in its physiological action. It is obtained in the form of colorless crystalline needles, soluble in water, in alcohol, and much less in chloroform and ether. If we isolate one of the parts, constituting this extractive matter so far unknown, which Prof. Hay has named *tetanus-cannabine*, to remember its physiological properties and its origin without prejudicing its true nature, and if we unite to tannin the substance which contains the hypnotic properties of cannabis indica, we will obtain a new body called *tannate of cannabine*, which possesses narcotic properties by far superior to the extract of cannabis indica. Dr. Trohmüller had used it with the best results. He refers to the history of 63 patients, 21 males and 42 females, the ages ranging from 17 to 77 years, the majority being between 20 to 40 years. Of this number 40 were affected with phthisis, 4 with abdominal tumors, 3 with chronic bronchitis, 2 with lead colic, 1 with acute pneumonia, 1 with dementia, 2 with alcoholism, a female had perimetritis, 2 other patients were severely affected with asthma, 4 presented painful symptoms of mercurial poisoning, a last one had an abdominal neuralgia.

All these complained of a complete or partial insomnia, for which they had taken opiates per os, or morphine hypodermically. The tannate of cannabine gave good results as a seda-

tive and a hypnotic in 37 of these patients. The action of the remedy began to be noticed about half an hour after its absorption by the mouth, and the sleep continued calm during all the night. In 15 other patients the calm was only partial, while the result was negative in other 12 subjects. Two patients, on awakening, complained of a slight head turbidity, which changed to headache or to a vertigo in some cases. A patient, who had taken a larger dose of the tannate of cannabine, presented symptoms of narcotism, which were relieved with acetic ether. In no case occurred any constipation nor nausea.

In the *Algens. Med. Chir. Zeitung*, Dr. Trohmüller calls attention to the advantages of this remedy to opium. It does not affect the physiological secretions, and less than opium, there occur any toxic accidents. All this will tend to make the tannate of cannabine a potent rival of opium.

The therapeutical dose is one grain (5 centigr.) to 5 grains (25 centigr.). It is important that the tannate of cannabine be free of any trace of tetanus-cannabine. (*Riv. Clin. e terap.*)

[It has no action when there exists a great excitement. It is to be absolutely avoided in case of hallucinations, for it will increase their intensity.—L.]

Parasites in Cholera (*Bricon*).—Pouchet and Vahl have found in choleraic discharges the *Vibrio Regula*, and this observation has been confirmed by Hassel, in 1873. During the same year, Pouchet, Brittan, Swayne and Budd described some *annular bodies*, *choleraic cells*, and choleraic fungi, classified by Busk and Williams in the *Credineæ*. Grove observed some *granular bodies* in the urine of cholerics and Klob found some *zooglea* colonies which developed in *leptothrix;* Thomé de-

scribed a fungus which he named *cylindro-thœnium choleræ asiaticæ*. But most important and badly valued were the studies of Prof. Pacini.

Pacini, in the year 1854, noted in the fecal discharges of the cholerics, the presence of numerous bacilli, multiplied in the intestinal epithelium, causing its destruction. Bouchardat considered the cholera as caused by a poison produced by *infusoria*, which were the cause of putrefaction in the swamps of Gauge. Haller attributed the cholera to the action of micrococci, which were nothing else but spores of the *Urocystis occulta*.

Gietl ascribed the disease to parasites. Lewis and Cunningham found in the blood of the cholerics masses of protoplasma, transparent and larger than the white corpuscles of blood, without nuclei or cellular membrane, having amœboid movements and minute granulations.

Danet attributed the cholera to a cryptogam greatly analogous to the *Oidium albicans*. He affirmed it to be identical to that described by Thomé, by Pacini and by Klebs.

Nedsoctski found bacteria in the dejections, in the vomited matter, in the urine, in the blood, etc., of choleric patients. Martin and Schweninger saw the uriniferous tubules completely obstructed by bacilli.

Hayen and Raynaud found in the fecal matter of cholerics numerous organisms without any special form. They observed bacteria, vibriones, and bacilli, but similar to those usually found in the fæces of sound or sick individuals, and in every epoch of life.

Permanent Antiseptic Medication.—The following are the conclusions of a splendid paper of Professor Emarch, of Kiel, read at the Congress in Kopenhagen:

1. In all wounds, whether produced accidentally or by the hand of the surgeon, the most desirable result is *the healing by first intention;*

2. This sort of healing can be always obtained by *keeping the infectious substances absolutely away from the wound, and the wounded part at rest;*

3. As the renewal of the dressing disturbs the wounded parts, and exposes them again to the danger of infection, we can see that a *permanent medication* (that is, one which can remain *in situ* until the complete cure of the wound) is the best of all;

4. If it is desired to avoid the renewal of the dressing before the cure has occurred, it is necessary to cleanse, close and dress the wound in such a manner that *no exciter of putrefaction nor any foreign body* remains in the wound, and that *no blood and secretion of the wound* be retained in any place.

Therefore the principal conditions of success are, (*a*) A complete *hœmostasis;* (*b*) *To avoid that any cavity is formed* inside the wounds; (*c*) to see that there be a *free exit* to all the secretions of the wounds; (*d*) very accurate *asepsis* and *antisepsis;* (*e*) the use of *compressible material for the dressings*, which *will absorb* the liquids; (*f*) immobility of the wounded part.—*Wiener Med. Presse,—Rivista Clin. e Ter.*

The Comma-bacillus.—The *Wiener mediz. Woch.* asserts that Koch has been able to demonstrate the transmission of the Comma-bacillus in animals and has produced the cholera in rabbits. That he has also demonstrated the non-identity between the bacilli of *cholera nostras* and Asiatic cholera.—*Italia Medica.*

Researches on Hydrophobia.—Pasteur, Chamberland and

Roux have communicated to the Academy of Sciences of Paris the important results of their studies.

The great fact of the variable virulence of one virus, and the preservation of a virulence for another of less intensity, is now an acquired fact of science and practice.

The virulence of the virus of rabies becomes enfeebled by the passage from the dog to a monkey and from the monkey to another monkey, and if the virus so enfeebled is carried back to the dog, to the rabbit and to the guinea pig, it is again attenuated. By the passages from the monkey to a monkey the attenuation can be brought to a condition unable to produce the rage in the dog, nor by the method of hypodermic inoculations, nor by the surer one of the trepanation.

The virulence of the said virus increases, if passed from rabbit to rabbit, or from guinea pig to guinea pig, and when it is carried to a maximum in the rabbit, it is transmitted in such a condition to the dog as to produce a rage always mortal.

It will now be of great interest to be able to suppress the development of hydrophobia following bites of rabid dogs.

Pasteur believes that, on account of the long period of incubation, the refractory state of the bitten subjects can be determined with a surety before the disease has manifested itself. The first attempts gave the greatest hopes of success, but it is necessary that they be multiplied *ad infinitum* and on different species of animals before they be attempted on man.—*Le Progrès Medical.*

Treatment of Cholera with Iodine.—According to Dr. Senise, of Naples, iodine has an anti-choleric action *par excellence.* He asserts that cholera has never reappeared where he used tinct. of iodine, sulphuric acid and sulphurous acid as disinfectants.

As a prophylactic he ordered a teaspoonful of cognac with a drop of tr. of iodine and two to four drops of laudanum two to three times a day. Whoever used this mixture was never attacked with cholera. Professor De Renzi gives one drop of the tincture to stop the intense vomiting. He reports many cures with the iodine treatment. Maurice in a recent communication states that he has observed on the field of the microscope that the microbes while resisting to solution of 10 per cent. of carbolic acid, perish instantaneously under iodine, although used a 1 per cent. solution.

Ovariotomy in a Child Twenty Months Old.—After a previous puncture, Romer performed laparotomy under a carbolized spray and extirpated an ovarian cyst, the size of a child's head. The cure occurred without any disturbance. This operation is unique in the literature, as so far such a splendid ovariotomy in a child of such atender age, was never practiced, with equal success.—*Berl. Klin. Wochenschrift.*

Whims of Hysteria.—A young woman, twenty-five years old, hysterical, during 1882 had an attack of acute articular rheumatism, from which she recovered. In 1883, she complained of sharp pains in the right knee. There was noticed, a little below the joint, a brownish swelling where the head of a pin could be felt. At the same time several other swellings were discovered in different parts of the body and especially on the right and left arm, on the chest, abdomen, legs, etc. During the month of December there were extracted 65 entire needles and 6 broken ones; in January 110, and, finally, the patient confessed to have swallowed five packages contain-

ing 140 needles. This case was reported by Professor Wide in the *Révue Medicale.*

A similar case was told by Herboldt (1822) of a girl fourteen years old, who, in 1807 had colics, hysterical attacks, etc. In the year 1819 numerous abscesses appeared on the surface of the body, from which were extracted 273 needles; in 1820 she had paralysis of an arm; in 1821 a hundred needles were extracted, and in 1822, while in the hospital, 32 needles were again taken from her body. Human whims!

Rindfleisch's Process to Study the Bacilli.—Rindfleisch propounds a modification which abbreviates considerably the duration of these manipulations. He slightly warms the coloring liquid. He places for a few seconds above the spirit flame the watch glass containing the solution of fucsine or of violet, until there is noticed a slight vapor on the surface of the liquid; the preparation is then immersed, and in fifteen to twenty minutes the bacilli are sufficiently colored, and the nitric acid solution can be used.

To mount the preparation, Rindfleisch also substitutes for the Canada Balsam a mixture of equal parts of glycerine and a syrupy solution of gum arabic, to which he adds a small quantity of arsenious acid.

The process of Ehrlich, so modified by Rindfleisch, is of sufficiently easy use, and it does not require more than twenty to twenty-five minutes to prepare a specimen. It is also used by Koch, who has renounced his own primitive method. Therefore we can be sure that the bacilli colored with this process are really the bacilli described by Koch, which cannot be affirmed when other methods are employed. The tubercle bacilli are thin, a quarter, half, and may be as much as the

diameter of a red globule long, are similar to those of lepra, but thinner and more pointed.

These bacilli are almost always isolated, rarely are united by two at the extremity, and never form masses.

Diphtheritic Arthritis.—During an epidemic of diphtheria, Pauli observed some cases of multiple articular pains as a complication of the disease. He explains this concomitance of the arthritis as the effect of the specific virus analogous to that of blenorrhagia.—*Paris Medical.*

Inhalations of Oxygen.—Massei agrees with Leci and Boucher in praising the efficacy of the inhalations of oxygen in diphtheria. This gas is a poison to bacteria and a stimulant in the adynamy and in the threatening paralysis of the vagus.—*La Sperimentale.*

Compressed Air.—Masini propounds to substitute the inhalations of compressed oxygenized air to the simple inhalations of oxygen in croup, trusting to the mechanical action exercised by the compressed air on the narrow walls of the larynx, and on the chemical action of the blood due to an increase of the inspired oxygen. He uses the Waldenburg apparatus, adding the sufficient quantity of oxygen. The applications must be of long duration and repeated four to fives times a day. This treatment does not exclude other remedies, and by prolonging the course of the disease, gains time for the surgeon to perform tracheotomy under favorable conditions.—*Italia Medica.*

Bran Baths.—Pape obtained two brilliant results prescribing tepid bran baths two to three times a day in cases of psoriaris idiopathica. Although this treatment does not always prevent return of the disease, yet it ought to be preferred so as to rapidly remove the affection.—*Med. Chir. Rundschau.*—*La Salute.*

Honor.—Professor Guido Baccelli, ex-Minister of Public Instruction of the Kingdom of Italy, and Director of the Medical Clinic in the University of Rome, has been nominated a member of the Academy of Medicine of Berlin.

The University of Vienna has a library which can contain a million of books. At present there are 725,000 volumes. The reading-room has 280 numbered chairs; 120 for law students, 80 for medical students, and 80 for the students of philosophy.

SELECTIONS.

THE PENNSYLVANIA ANATOMICAL ACT.

The medical profession in some of our States, and especially in Illinois, are taking active steps toward obtaining new anatomy acts. In view of this fact, and of the recent passage by the State legislature of Pennsylvania of a new act, it may be worth while to lay before our readers a brief sketch of the law and of its excellent working. In our issue for August 11, 1883, we published the full text of the law as proposed by the anatomists and enacted by the legislature.

It provides a State Anatomical Board composed of the professors and demonstrators of anatomy and of surgery of all incorporated medical and dental schools, and one representative from every such private school. This board shall distribute to each school, in proportion to the number of students in their anatomical and surgical classes, all unclaimed and unknown bodies, which would otherwise be buried at the public expense. Each school reports to the board, at stated times, its number of students as a basis of such distribution. In each county of the State unclaimed bodies may be delivered through the board to any physician in the county who complies with the provisions of the act as to filing a bond. Thus it legalizes dissection throughout the State, and affords facilities for anatomical study to those who could secure no such opportunity, except by leaving their practice and coming to Philadelphia. All bodies not so needed in each county are, at the expense of

the board, forwarded for use in the large schools, whose students come from all parts of the State.

This act has only been in operation practically since September, 1883, yet its good results are already apparent. To put such a law in operation in the many counties in the State and in numerous institutions, has required a large amount of labor and much patience and tact. Prejudice has in some cases only slowly yielded, but gradually the operation of the law is being extended over a larger area, and, as the figures will show, it is working most satisfactorily. The voluntary Anatomical Association, which preceded the present board, received and distributed in the year 1879-'80, 243 subjects; in 1880-'81, 222 subjects; in 1881-'82, 302 subjects; and in 1882-'83, 244 subjects. In the year ending April 1, 1884, there were received 283 subjects, but the law had then just begun to be enforced. In the first half of the present year there have been received in all 232 subjects. As the field of operation of the law is being gradually extended, it is fair to estimate that the supply for this year will reach at least a total of 400, and possibly even more. Even this number, however, is far too little for the wants of our great schools. The board, however, are gradually putting the law in working order in counties as yet unreached, and the supply will soon be adequate to all the demands of the schools for properly educating their students.

The Pennsylvania anatomy act has been proved by its working to be the best law in force in this country, and we are glad to learn that the profession in Illinois will endeavor to have substantially the same law passed. We bespeak for them all the help our readers can give them. They have gone to work in the right spirit, and with a systematic effort which deserves and should command success. Such a law is the only means to provide the physician with a knowledge of his funda-

mental study; and is the surest means of preventing desecration of graveyards—a crime which is so shocking to the moral sense of the entire community.—*The Medical News, Dec. 13th, 1884.*

LOCAL NEWS.

RUSH MEDICAL COLLEGE COMMENCEMENT.

The regular Annual Commencement exercises of the Rush Medical College, of this city, took place in Central Music Hall, on the afternoon of Feb. 17th, 1885.

The hall was well filled with an appreciative audience, and the ceremonies were of the usual formal and imposing character. The degrees were conferred by the President of the College, Professor J. Adams Allen, and the general valedictory address was delivered by Professor W. H. Byford. From the report of the Secretary of the Faculty, Professor J. H. Etheridge, we learn the whole number of students attending the past College term was 401, and the number on which degrees were conferred was 151; the length of the College term, a little less than five months.

SOCIETY PROCEEDINGS.

CHICAGO GYNÆCOLOGICAL SOCIETY.—*Interesting Case of Double Ovariotomy.* DR. E. C. DUDLEY.

Regular Meeting, Friday, Jan. 16th, 1885.—The President, Dr. H. P. Merriman, in the chair.

Dr. E. C. Dudley read a paper on an interesting and unusual case of double ovariotomy. The specimens were subsequently exhibited.

The patient, eighteen years old, unmarried, came to Mercy Hospital about eighteen months ago, to consult Dr. Dudley about marked abdominal enlargement. The diagnosis of monocystic tumor of the parovarium, or broad ligament, was made. The cyst was aspirated, and two gallons of fluid were removed. This fluid possessed the following characters: sp. gr., 1000.5; neutral reaction; limpid as water; odorless; colorless; on microscopical examination, no morphological constituents were detected; on chemical examination, certain mineral salts were found, but no albumen.

The patient experienced so much relief, after aspiration, that she left the hospital with the impression that she was permanently restored to health.

About three months ago she visited Dr. Dudley at his office. It was found that the cyst was partially refilled. An operation was determined upon.

The preparatory treatment of the patient,—apart from

tonics, the most nutritious of foods, frequent baths, and finally a Turkish bath, immediately preceding the day of operation, — consisted in the exhibition of remedies designed to increase the tonicity of the muscular coats of the intestines, and to expel all gases. For this purpose, the patient was given, two or three times daily, a mixture of columba, rhubarb and compound tincture of cardamom. In a case operated upon early in the autumn, Dr. Dudley had experienced much difficulty in the management of the intestines, which were distended with gas. In this case, subjected to the preparatory treatment just detailed, absolutely no difficulty in that direction was encountered.

The *mons veneris* was shaved, the vagina irrigated immediately before operation. The details of rigidly antiseptic surgery were observed with reference to the operating room, instruments, operator and assistants.

On Oct. 29th, Dr. Dudley, assisted by Dr. W. W. Jaggard, Dr. R. W. Bishop and Dr. W. E. Casselberry, performed ovariotomy, and removed both ovaries and tubes, together with a large monocyst of the left broad ligament. The pedicle of the large cyst was very vascular, and after transfixion with the passage of the ligature around each half, the operator was compelled to ligature *en masse* below the point of transfixion. The pedicle was afterwards seared above the Baker-Brown clamp with Paquelin's thermo-cautery.

Ether was employed as the anæsthetic.

The patient reacted well. At noon, two hours after operation, temperature 100.7°; pulse, 150; respiration, 20. She complained of nausea. At night, temperature, 100.8°; pulse, 115; respiration, 20; nausea continues; no tympanites.

Oct. 30th. Morning; temperature, 100.4°; pulse, 112; respiration, 20. Evening, temperature, 101°; pulse, 124; respiration, 20.

Throughout the day the patient moaned and tossed, complained of nausea, vomited incessantly. A peculiar talkative delirium ensued. Morphine and atropine were given to suppress vomiting; discontinued the atropine, fearing its cerebral action. Hot water, as suggested by Mr. Keith, was tried, with hope of checking nausea and vomiting, without success. The deodorized tincture of opium was substituted for morphia. The talkative delirium, nausea and vomiting continued unabated. The patient retained only a little ice water at long intervals.

Oct. 31st. Morning; temperature, 99.8°; pulse, 110; respiration, 20. Evening; temperature, 99.8°; pulse, 110; respiration, 20.

Nervous symptoms, greatly exaggerated; nausea and vomiting unabated; pain in the abdomen complained of at intervals. Codeia was substituted for the other opiates. Small quantities of milk and lime water, at intervals, were exhibited. The patient remained in the same condition. Talkative delirium, no sleep, nausea and vomiting, pain in the abdomen at intervals; no tympanites.

Nov. 1st. Morning and evening temperature, 99.7°; pulse, 106; respiration, 20. Talkative delirium, nausea, vomiting of bile,—the "mouth-filling" of Mr. Keith,—abdominal pain, no tympanites. She commenced to menstruate, or at least blood began to escape from the vagina.

Nov. 2d. Morning; temperature, 98.8°; pulse, 114; respiration, 18. Evening; temperature, 98.6°; pulse, 135; respiration, 21.

Nervous symptoms more distressing; nausea and vomiting continuing; patient becoming emaciated; face taking on a pinched, anxious expression. Valentine's beef juice exhibited; mustard to epigastrium; strychnia, in small doses; champagne; bisulphate of quinine, *per rectum*.

Nov. 3d. Morning; temp., 101°; pulse, 130. 10 A. M., temp., 101.2°; pulse 160. 10:30 A.M., temp., 101.6°; pulse, 178.

Persistence of wild, talkative delirium, nausea, vomiting, abdominal pain. The pulse, while very rapid, was not the feeble pulse of collapse. Dr. Dudley had one case of peritonitis following perforation of the posterior uterine wall, in Mercy Hospital, that died of septic poisoning, although the temperature did not rise above 100°.

With the aid of Dr. R. W. Bishop, Dr. Dudley etherized the patient, removed four or five stitches from the lower end of the abdominal incision, and inspected the cavity of the abdomen. The peritoneum was examined; no lymph was noticed; no gas in the intestines. The pedicles were not covered with lymph. A disinfected sponge, on a holder, was passed into the *cul-de-sac* of Douglas; about one-half of a fluid ounce of bloody serum was removed. This red stained fluid was odorless; it was not further examined. Feeling no good had been accomplished, the incision was reunited. This operation was performed at 10:30 A. M.

Temperature at 12 M., 101°; pulse, 150.
" at 2 P. M., 100°; pulse, 144.
" at 3 P. M., 100°; pulse, 135.
" at 7 P. M., 100°; pulse, 140.

Jactitation, wild delirium; nausea and vomiting; pain in the region of the coeliac axis; no tympanites. Rectal alimentation.

Nov. 4th. Morning; temperature, 100°; pulse, 135-150. Whisky, beef tea and milk at regular intervals; bisulphate of quinine *per rectum*. Persistence of the symptoms before detailed.

In the afternoon, the tongue was dry, cracked, ready to bleed; decidedly less nausea and vomiting. The nurse was directed to give the patient an enema of soap and water, with extract of ox-gall. One quart of this mixture was injected into the bowel. No evacuation of the contents of the rectum following, a tube was introduced, which was followed by that classi-

cal sign, the audible escape of flatus. Mr. Keith says that if the intestines have sufficient muscular energy to expel flatus, the prognosis becomes more favorable. It is probable a reversed peristalsis occurred, and the injection was entirely absorbed. One hour afterwards the tongue became moist. Evening temperature, 101°; pulse, 135.

Acting on the suggestion from the enema, one quart of strong beef tea was introduced into the bowel.

Nov. 5th. Patient evidently in better condition. Temperature, morning and evening, 98-99°; pulse, 120-130. One quart of strong beef juice was exhibited *per rectum*, and carried well up into the bowel. About three-fourths of this quantity was retained. Slight nausea and vomiting. Bowels were moved spontaneously, with evacuation of a large quantity of dark, tarry, fœtid fæces. The sutures, originally inserted, were removed.

Nov. 6. Morning; temp., 98.5°; pulse, 90.
Evening; " 98.1°; pulse, 115.

Bowels were again moved spontaneously, with evacuation of dark, tarry, fœtid fæces; all the symptoms of the patient assuming a favorable character. Beef-tea, whisky, quinine, and nutrient enemata continued. From this time on, the patient made an uninterrupted recovery. At the end of two weeks she was removed to St. Luke's Hospital. She is now in good health and pursuing her usual avocation.

In conclusion, Dr. Dudley called attention to the three following subjects, and requested that the discussion should be more particularly limited to their consideration..

I. *Preparatory Treatment of the Intestinal Tract.*—Is it possible to render the intestines manageable during an operation in the abdominal cavity by any dietetic or medical agencies? The escape of the intestines without the abdominal parietes

was a very distressing complication. The shock of the operation was increased, large vascular areas were rapidly cooled, notwithstanding the fact that they might be enveloped in warm, disinfected fabrics. It was not always easy to return the intestines to the cavity of the abdomen, and even then there was danger of strangulation. He was of the opinion that, in the case reported, the rhubarb, columbo and cardamom were active in restoring tonicity to the muscular coats, and in the expulsion of flatus.

II. *The Retention of Enemata.*—It was a matter of surprise to him that one quart of fluid exhibited *per rectum*, on three successive days, should be retained. He supposed that the liquid portions of the injections were absorbed at once, in consequence of the state of the tissues, resulting from exhaustion. The return of the tongue to a moist condition, within a very short space of time, immediately following the injection, was evidence in favor of this explanation.

III. *The Re-opening of the Abdominal Incision.*—Had it done any good? What produced the excessive nervousness? What was the cause of the nausea and vomiting?

The problem was an intricate one. It has been asserted that a very tight ligature around the pedicle can act as a reflex irritant. The sutures in the abdominal incision are sufficient, at times, to produce various obscure reflex symptoms. He had one case—his first case—in which uncontrollable vomiting yielded immediately upon the withdrawal of a rubber drainage tube.

It may have been that the case reported was just on the eve of recovery, when the abdomen was reopened.

The fluid removed was small in quantity, and without odor. The peritoneum, however, can secrete with wonderful rapidity, and then absorb the secretion. He had not examined the fluid microscopically or chemically. He had dusted into the *cul-de-*

sac a small quantity of iodoform. Whether *post hoc* or *propter hoc*, the patient recovered.

If it was a case of exhaustion, the beef, milk, and whisky deserved the credit. If a case of sepsis, the reopening of the incision was the potent factor. In answer to a question by Dr. Sawyer, Dr. Dudley said, that although the delirium of the patient was attended with visions of snakes, alcohol was out of the question, from his own knowledge of the habits of the patient. In answer to Dr. Merriman's question as to the preparation of the ligatures, Dr. Dudley said that silk thread was used exclusively for sutures and ligatures. This silk thread was boiled for ten minutes in 95 per cent. sol. carbolic acid; then for thirty minutes in 5 per cent. sol carbolic acid; finally it was deposited in a solution of the bichloride of mercury, one to four thousand.

Dr. Dudley then exhibited the specimens. The right ovary was slightly enlarged, and in the commencing stage of cystic degeneration. A cyst, about the size of a hickory nut was found in the right broad ligament. The left ovary was converted into a mass of fibrous tissue, about the size and shape of a kidney. Springing from the left parovarium or from the left broad ligament was the large monocyst, to which allusion has been made. This cyst, at the time of operation, contained about forty pounds of fluid.

Discussion.—Dr. Henry T. Byford thought that the reopening of the abdominal incision was unnecessary. Relief could not have come from the removal of such a small quantity of fluid as one-half fluid ounce. The improvement, immediately following the operation, was probably due to the stimulant effect of the ether. The delirium seemed to him to be that of alcohol or cerebral anæmia. He did not think that the symptoms of nausea and vomiting could be explained by any local irritant such as ligatures or sutures. It was a case of exhaus-

tion, cured by the judicious exhibition of beef, whisky and milk.

Dr. Edward Warren Sawyer said the patient owed her life to the persistent bravery of the operator, and congratulated him upon his success. He was surprised to hear that no albumen was detected in the aspirated fluid. Friedrichs says albumen is always present in such cases, but absent in echinococcus cysts.

Dr. Flavius M. Wilder said that egg albumen in water was frequently tolerated by the stomach when other matters were rejected.

Dr. W. W. Jaggard thought the secretory and resorptive functions of the peritoneum were matters of positive knowledge. Dr. Anton Wölfler, in a recent paper, has taken, substantially, Dr. Dudley's position. It is quite possible that the one-half fluid ounce of bloody serum, found in the *cul-de-sac*, represented the ultimate stage of resorption of a much larger quantity of fluid.

One-half fluid ounce of fluid, however, may contain enough sepsin or sufficient bacteria to produce the most fatal pyæmia. There is no quantitative relationship in regard to the virulency of certain poisons.

The mere reopening of the abdominal incision seems to act, under certain conditions, in a favorable manner. The reason is unknown. It is an empirical fact, acknowledged by a number of leading surgeons.

He thought Dr. Dudley deserved great credit for his action, in taking up the suggestion of numerous operators, when he knew positively no foreign body was contained within the abdominal cavity.

Dr. W. E. Casselberry wished to emphasize the importance of the preparatory treatment of the intestinal tract. He had been present at both of the operations, to which Dr. Dudley had referred, and was struck by the difference in the behavior of the intestines. The mixture employed by Dr. Dudley

resembled a favorite formula of the late Dr. Geo. B. Wood. This formula was advised for the expulsion of flatus and restoration of tone to the intestinal muscular walls.

Dr. D. T. Nelson said it was highly important to avoid the use of opium, when it was possible. The less opium, in general terms, the less the tendency to vomiting. As to the pedicle, he entertained grave doubts as to the propriety of passing the ligature *en masse*. In strangulated hernia, uncontrollable vomiting frequently resulted from the inclusion of omentum in the ligature. Would it not be better to open the pedicle, and pass a ligature around each vessel separately? He thought Bantock, Thornton and Spencer Wells advised the same treatment as in the securing of the vessels in an amputated leg.

Dr. Sawyer said he had seen Dr. John E. Owens remove a testicle; following the passage of the ligature around the cord, uncontrollable vomiting occurred.

The reopening of the abdominal incision was looked upon with too much fear. He had been present at an operation in which all the blood had not been removed from the *cul-de-sac;* the patient died of septicæmia. At the autopsy, Douglas's pouch was filled with blood. An operation might have saved life. Another case in point, was one of normal, double ovariotomy. After the operation, the patient sank rapidly. The operator concluded the patient was suffering from internal hæmorrhage. Twelve hours later, the abdominal incision was reopened, and after two hours search the bleeding vessels were secured. The patient recovered.

Dr. H. P. Merriman endorsed Dr. Dudley's reopening of the abdominal incision in the case presented.

In regard to the preparatory treatment of the intestinal tract, he was not certain that the exhibition of columbo, rhubarb, and cardamom had produced the favorable result in the one case, nor that the neglect of preparatory treatment was opera-

tive in the troublesome condition in the other. He did not think the opium was the cause of the vomiting, since the nausea disappeared while the patient was still under the influence of opiates.

He did not think the ligature *en masse* or the clamp could be replaced by the method suggested by Dr. Nelson. The danger from hæmorrhage was too great. It was an admirable subject for study. If the pedicle was complely destroyed the danger of pinching nerve filaments would be less.

The quantity of fluid removed after reopening the incision was not sufficient to account for the improvement in symptoms.

Dr. Nelson referred to the compression forceps, and ligature placed above, as designed to obviate the inclusion of nerves, still sensitive.

Dr. Dudley closed the discussion. The mere opening of the abdomen seemed to act in a remarkable manner under certain conditions. Tubercle of the peritoneum, papilloma of the omentum, were pathological states which had been influenced favorably by the procedure.

Cocculus indicus is supposed to have the same effect to prepare the intestinal tract as the mixture exhibited.

It was not necessary that a discharge should have a foul odor or be large in quantity, in order to be capable of producing pyæmia.

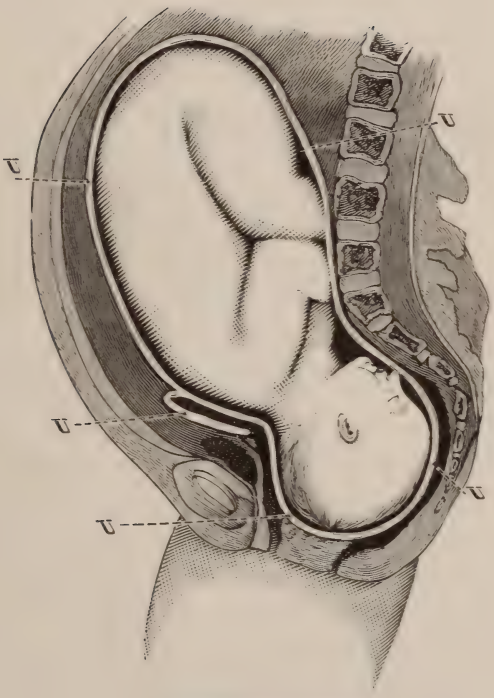
The Society adjourned to meet at the Palmer House, as the guests of Dr. Sawyer and Dr. Jaggard, on Friday evening, 20th Feb., 1885. Dr. Christian Fenger will present a report of the result of his anatomical investigations of Professor Byford's "Two cases of mural pregnancy."

Dr. H. T. Byford will read a paper on "The Functions of the Membranes in Labor."

The inaugural thesis of Dr. Chas. Caldwell on "Two Interesting Cases in Obstetrics" will be discussed.

W. W. JAGGARD, *Editor*,

Jan. 19th, 1885. 2330 Indiana ave.



U.—Uterine tissue (muscular.)

Illustrating "A Case of Mural Pregnancy," in January number of the Medical Journal and Examiner.]

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ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE AFFECTIONS OF THE SKIN INDUCED BY TEMPERATURE VARIATIONS IN COLD WEATHER.

By JAMES NEVINS HYDE, M. D. *Professor of Skin and Venereal Diseases, Rush Medical College, Chicago.*

The consideration of the subject which is somewhat indefinitely announced in the title of this paper, possesses for the inhabitants of this part of the country, some importance. The subject involves a study of the changes induced in the skin of many persons subjected to the vicissitudes of the winter weather in the northwestern part of the United States; and its importance is derived from several considerations. Among the latter may be named the noteworthy difference in the behavior of the skin of different individuals thus exposed; the fact that this variability is in a minor degree subject to influences quite distinct from atmospheric changes; and last, but not least, though in part resulting from the reasons just stated, the fact that many persons are quite ignorant of the

chief etiological factor in the production of these diseases, some even going so far as to deny with positiveness its causative operation.

A very moderate clinical experience establishes the fact that the change from a relatively high to a relatively low temperature, less often the reverse, is more efficient in the production of these skin disorders than a temperature which is for some time uniformly registered at a low point. Briefly and figuratively it may be said that it is not so much the shrinkage of the mercury to a low point, as its rapid play from one point to another that begets the mischief. It is unquestionably true, that the skin of many persons sympathizes with the summer variations of temperature, as, for example, that from 60° to 80° F., or from 70° to 90° F., which may often be recorded in this latitude in twelve hours of time. But it must not be forgotten that the winter changes are fully as abrupt, and, though possibly less noticed, are, as regards their influence upon the skin, probably far more effective. Here in the winter even greater variations occur, as from twenty degrees below zero to twenty above.

In the skin, which is the subject of the changes about to be described, the dip of the mercury in the thermometric tube may be held to be a rough index of the degree of aggravation of the cutaneous malady; but it would be fallacious to conclude that the sole etiological factor in each case was the coldness of the air alone. Patients who remain, during one of these periods of increasingly cold weather, in an apartment uniformly heated to a perfectly comfortable temperature, suffer, naturally, to a less extent than others, but do none the less suffer from the change in the atmospheric condition. Allowance should be made for the fact that the head, and often the shoulders, hands, and arms of one who sleeps in a warmed

bed-chamber, are exposed somewhat at night to the lowered temperatures that are usually attained before the fires are radiating a greater supply of heat in the morning, but more must be admitted. There is something more efficient than even the transitory exposures to the cold air experienced in the opening of doors and windows. Thus the skin of certain infants, once affected by the disorders under consideration, who occupy chambers that are day and night kept by steam or other artificial heat at a fixed and perfectly comfortable temperature, will resent the change of condition in the atmosphere outside. What magneto-electric, chemical, or other modifications, may accompany the rapid transference of a great quantity of heat to its latent state upon the surface of the earth, need not be particularly discussed here. It is quite possible, even allowing for these, that a great retardation of the mode of motion we call heat, may necessarily involve the retardation or acceleration of other modes of motion, whose waves we may be at some time able to measure, and whose force to estimate in pounds.

Given one thousand human skins exposed to these influences, and, as we might readily understand from *a priori* reasoning, there will be in many, perhaps even a majority of them, no pathological results. This goes without saying. 'Tis the same when an equal number of persons swallow an indigestible aliment, of whom only a few suffer from diarrhœa. Even in the severest epidemics of yellow fever, thousands of the unacclimated escape. Unfortunately, in the present case, the proportion of those who suffer to those who enjoy immunity, cannot be statistically stated.

Naturally, those who suffer, suffer in different degrees. Here is a wide field opened.

The milder forms of these affections are familiar to all.

Almost every one recognizes the condition and appearance of the "chapped" hands, of the roughened faces, of the "frost-bitten" lips, nose, cheeks, and ears, and of the "chilblains" that affect the feet and hands. As the parts named are, to a greater extent than others, exposed either to the action of the weather or to objects chilled by this exposure, there is little or no difficulty in persuading the victims of these accidents as to the precise cause of their trouble. The difficulty, and this is often well-nigh insurmountable, arises when the action of cold air extends beyond the points of exposure, to the general surface of the body covered by the clothing. If the sturdy English of the last century had coined similarly homely phrases for "chaps" and "chilblains" of the skin covered by the clothing, there would have been far less reason for this present writing.

One of the commonest expressions of the resentment of the general surface of the skin is a decided cutaneous pruritus. Dr. Duhring, of Philadelphia, was first to describe this condition under the title, Pruritus Hiemalis, and the affection, as named by him, has received proper recognition by several foreign writers. It may be doubted, however, whether in the British Isles and upon the continent of Europe, whose climate is so happily modified by the gulf stream, the disorder is to be observed in anything like the severity and to the extent known here. Several circumstances, to which reference is made later in these pages, lead me to the conclusion that the region known as the Northwest, is occupied with a population which suffers from this and similar affections far more than do the dwellers upon either the eastern or western sea-board of this country.

The skin, which becomes the seat of this affection, is either gradually or suddenly involved, in persons of both sexes and all

ages, and this independently of the previous habits of the sufferer as respects the bath. The cutaneous surface may be harsh, dry, rough to the touch, even exhibiting an exaggerated picture of the condition known as "goose-flesh," or be perfectly natural in appearance, soft, smooth, supple, and the seat of all normal secretions. The subjective sensations experienced in it may be first noticed in the cool weather of the autumn, or in mid-winter, or even during the relatively mild weather of the early spring, after the severity of the colder season has abated.

This subjective sensation is an itching, tingling, pricking, or burning, varying from the mildest and localized grades to the severest, affecting the entire bodily surface. Like most of the affections attended by cutaneous pruritus, the sensation of distress is decidedly aggravated after retiring to the bed at night, and this because of, first, the fatigue of the nervous system, which is usually greater at that hour; second, the change of temperature at the surface of the body necessitated by the change of clothing preparatory to occupation of the bed; third, the opportunities for scratching afforded by that change; and fourth, the increased vascular tone of the skin when re-heated within the bed-clothing. Another and usually milder exacerbation occurs on rising in the morning. During the day, when the attention of the nervous system is distracted by social and business engagements, and when the bodily clothing preserves the temperature of the surface at a relatively uniform point, there is less distress. A sudden or unguarded exposure, however, to the sources of heat or cold during the hours of the day, will often exceedingly annoy the sufferer. Thus, the physician who removes the clothing of his patient in order to inspect the covered surface of the body, will often find that he has in this way provoked an access of pruritus.

In all grades of severity, the disorder is either completely relieved or greatly mitigated by the advent of milder weather, or by removal to a more temperate climate. The tormented skin will often, however, in this latitude retain the souvenirs of its accidents till late in the spring.

The next picture presented clinically in this affection of the skin is a simple sequence of the pruritus described above. It results solely from the scratching practiced in order to relieve the itching. Here the skin is rubbed, torn, or abraded by the finger-nails or articles employed to supplant these, and becomes in varying degree the seat of resulting inflammatory changes. Pin-head-sized and larger reddened papules usually discrete, often aggregated in patches, occasionally widely separated, their apices torn or capped with a minute blood-crust, spring from a sound, a reddened, or an infiltrated integument. The streaks left upon the skin by the finger-nails are recognized as two, three, or four radii of linear abrasions, corresponding in number to the number of fingers used, either parallel, as when the hand is drawn like a rake over the skin, or, as Hebra pointed out, converging, when the thumb is rested upon the skin and made the *point d'appui* for the fingers approximated to it with such mischievous intent. Pushed to a still greater extent, this traumatism induces a severe artificial dermatitis or eczema, the skin becoming infiltrated, angry, reddened, excoriated, and fissured. Vesicles, pustules, and papules are seen, not often, however, intermingled, and the resulting crusts may be conspicuous, commonly having the superficial character and light tints of desiccated serum.

Now, it is a curious fact, that many patients in this condition are well aware of the fact that they have produced all the eruptive lesions themselves, and that the pruritus was the *fons et origo* of the whole disorder. A single well-directed ques-

tion to this class of sufferers will at once throw a flood of light upon the diagnosis. But it is a much more singular fact that few, indeed, volunteer this statement. This is one of those puzzles that human nature, when subjected to critical examination, is constantly presenting to the physician. I cannot, as I write these lines, recall, in my entire experience, more than two or three instances when this precious bit of knowledge was given to me unasked. Many, it is true, are ignorant of the real state of the case. But whether informed or not of the fact, no one need depend upon question and answer for arriving at the proper conclusion. An inspection of the patient will furnish even more precise knowledge on this point.

On careful examination it will be seen that the lesions of the cutaneous surface exist either solely or in great preponderance upon the parts of the body most accessible to the hands. These are, in the order of frequency and for reasons that need not be named, first and prominently always the inside of the thighs; next, the outer faces of the buttocks, the upper and anterior portions of the legs, the popliteal spaces, the forearms and arms, the genital region in males, more particularly the front of the scrotum and the skin of the penis, the lower portion of the belly, and the infra-clavicular regions. Only the most determined and persistent scratcher attacks the interscapular space, below the scapular spines. Here, if anywhere, the skin will be seen either, as is almost the invariable rule, entirely destitute of lesions, or exhibiting a few scarcely irritated papules. Perhaps comparison will furnish better results. Thus, in the most severe cases of pruritus, the calves will suffer less than the tibial regions; the axillæ less than the groins; the small of the back less than the lower belly. It is a pure question of accessibility, and the story is writ large on the face of the body.

It is an unfortunate appanage of many skin disorders that they are liable to become greatly aggravated by the mischief which they indirectly determine. Thus, the man who strains in an effort to expel his engorged prostate from his rectum, and the woman who cannot avoid the attempt to swallow her swollen tonsil, commonly add to the acute inflammatory condition of these glands. A similar chain of events can be traced here. The pruritic skin, at last, not only itches far more in consequence of the traumatism inflicted upon it, but the traumatisms themselves, with the dermatitis they awaken, are more weather-sensitive than at the outset of the trouble.

Another form of cutaneous disorder under the influence of the atmospheric changes here considered is an eczema, usually of the papular type, occurring primarily, without marked precedent pruritus and independently of traumatism. Upon this point it is needful to speak with some caution. For there are patients who affirm that they have not scratched or otherwise wounded the skin, who have really produced this result in the unconsciousness of sleep; and, as Kaposi has well shown, the skin which is at one point the seat of an exudative affection is often so sensitive that the irritation occurring at this point may be the sole exciting cause of similar trouble at a distant point. Still, making allowance for all this, there are some patients who actually exhibit lesions due solely to the effects of climate.

As indicated above, the lesions are commonly pin-head-sized papules, reddened in various shades, the color being modified by the natural tint of the skin in different persons. They may be aggregated in patches, but are much more often widely dispersed and irregularly distributed over the surface. They are, as a rule, not most abundant in the several regions of the body already enumerated, unless the intervention of scratching has altered the natural features of the disorder. They may be

associated with equally minute vesicles, or, more particularly in regions where the skin is delicate in structure, be in part transformed into such serum-containing lesions. Thus it is not rare to discover one or more of these papules capped with tiny vesicular apices at the roots of the fingers or in the interdigital spaces, the patient demonstrating to his physician the fact that they "contain water," by expressing a droplet of clear fluid from an isolated point. Similar lesions may often be found at the wrist, over the skin of the penis, and on the breast of women; and, when untorn, they are rather persistent, usually undergoing involution without forming a crust.

When the skin in this condition is subjected to scratching, the eruptive picture is very nearly that when the pruritic condition precedes the eruptive phenomena. But little difference between the two can be recognized in the case of dispensary patients, who exhibit, as a rule, the severer types of the disease. Patients of intelligence, observed in private practice, who carefully watch the integument and compare its condition one day with that of another, will often take great precautions to keep the hands from wounding the skin, and thus be able to point out with some exactness the evolution of individual lesions in some part of the body.

Other of the varieties of eczema may be similarly induced and similarly modified, less often, however, than that just noted. Pustular lesions are more often seen among the poorer class, when the surface of the skin has been long unwashed; and, as a result, the crusts they exhibit are more bulky and more deeply colored.

In the eczema of the cold season, not preceded by cutaneous pruritus, the character of the clothing worn plays some part in its production, though it is a minor one. The edge of the linen cuff and of the rough overcoat or cloak-sleeve playing at

the wrists, evokes a plentiful crop of lesions at these points; and a similar result is obtained where the collars fret with their edge the neck. Woolen gloves during these seasons, are particularly prejudicial to the backs of the hands, where a really formidable eczema rubrum may develop. It must be admitted that the brilliant, aniline-dyed under-garments that are responsible for so much mischief in the warmer days of the summer when they are moistened with the sweat, are comparatively harmless when the mercury approaches the zero point. This must be due to the fact that in winter the skin is less often macerated with sweat, for day-laborers engaged in work that produces free prespiration in winter, exhibit the poisonous effects of these dyes. It may be said, in passing, that in order to set aside all possibilities of damage, these garments should be at all times interdicted to patients with cutaneous affections.

In yet other cases, the skin expresses its resentment of the atmospheric coldness, by a rebellious form of chronic urticaria. This is rather more common in women and children than in men. The wheals are evanescent, usually of small size, and sparsely or plentifully developed over the portions of the body covered by the clothing. In the warmth retained by bed-clothing, they become especially annoying. A common form is the papular wheal, sparsely scattered over the shoulders, about the waist, and over the arms, the lesions being often abraded by the nails in scratching. Care must be taken not to confound this condition with that in which the urtication is purely the result of such traumatism. When inspected in the hours of the day succeeding a night of distress from this source, one commonly finds on the skin of women who are thus tormented, only a few rosy or pinkish striæ or puncta, at the sites of the departed wheals. The natural appearance and condition of the integument in many of these cases, presents a striking contrast with

the history, which is often detailed with the eloquence of feeling. Sleep during these accesses is quite forbidden; and the nervous system, as it suffers, contributes its share to the aggravation that is apt to follow. Exasperating recurrences are to be expected with each decided change in the temperature of the air.

There is another class of patients who suffer at these crises of cold weather with furuncles, which form about the buttocks, and in the skin and subcutaneous tissues of the thighs, neck, hands, arms, and legs. These are often multiple, but rarely formidable in size or depth of involvement of the tissues. They occur both within and beyond eczematous patches, and even in persons who have suffered from only the more trifling of the eruptive disorders enumerated above. Many patients in this category cannot be recognized as suffering from "the depressed state of the system" commonly assigned as the cause of furunculosis. They are often indeed in a condition of sound general health, the boils resulting solely from the cutaneous irritation.

Lastly, it is proper to remark, in passing, that the variations of atmospheric temperature in cold weather may exert an unfavorable influence upon several skin affections of widely diverse origin, even upon those dating from the summer season. Among them may be named, typical eczema capitis of infants with seborrhœic complications, and the psoriasis of adults. These and others by aggravation or recrudesence testify to the influence of the season. It is understood, of course, that there are many patients who suffer from cutaneous diseases that are greatly ameliorated in the winter months.

Having thus briefly summarized the conditions in which the skin may be placed by the action of temperature changes in cold weather, I desire in the following pages to discuss more par-

ticularly certain questions of diagnosis and etiology which are thus naturally suggested. These questions occur more frequently in the presence of pruritus hiemalis, papular eczema, and the changes induced in both by the traumatism of scratching. According to the view which they take of these questions, the most of patients and too many physicians may be divided into two classes; the first, those who believe them to be due to parasites: the second, those who charge that they result from "impurities in the blood."

Touching the opinions held by the first class, it may be remarked that there are few counties in the Northwestern States that do not, popularly speaking, possess an itch called by a name of their own. Many are at one in contenting themselves with the widely accepted term, "prairie itch," which covers a great deal of ignorance and may be well relegated to a place by the side of the "army-itch," whose history did not survive the few years of civil war. Other names no less suggestive of a popular belief as to the origin of these troubles, have no better *raison d'être.* There are schools, and schools of belief in these questions. Many hold that the cause is a "microscopic animalcule," others, that the disease is really scabies, as a result of which, vain attempts are made for weeks at a time to relieve the eruptive disorder by inunctions of sulphur-containing salves. For five years past, I have been in receipt annually of a number of letters from intelligent physicians in Dakota, Nebraska, Minnesota, Iowa, and portions of Illinois, whose contents are so similar that they correspond to a remarkable degree. The writer usually announces that in the neighborhood where he is engaged in practice, a peculiar form of "itch" has appeared, affecting the greater number of all the inhabitants of the region, men, women and children; eminently contagious in character; and incurable by the ordinary meth-

ods of treatment. Some of these correspondents declare, that "every one has it." These letters are alike also in the fact that they commonly begin to appear in the late autumn or winter, and cease in the spring.

Of course it would be improper to decide positively on the diagnosis of cases of disease, without a personal and critical examination of the patient. But occasionally, a selected representative of this class of sufferers has been presented to me, in the person of some well-to-do farmer, anxious for relief and ready to incur the expense of a trip to the large cities in the hope of securing it. In every one of the cases presented, the sufferer has been found affected with some one of the disorders of the skin described above.

A few weeks ago, the following announcement appeared in the public press:

The Itch.—Louisville (Ky.) *Times:* Louisville has the itch. So have Jeffersonville and New Albany. It is probable that 5,000 people about the falls are daily applying antidotes for the old-fashioned malady remembered by the children of twenty years ago as the "itch." The remedy then was a nightly greasing from head to foot with hog's lard and sulphur. That is also the remedy now. The malady's introduction is credited to the recent influx of tramps from the North. The physicians estimate that every twentieth person in Louisville has it, and say they are kept busy in consultations and writing prescriptions, while the druggists are besieged by people in search of a cure.

The "tramps from the North," in this instance, were most probably the series of cold waves from the Manitoba region, which have lately been surpassing their usual limits and reaching with unwonted severity even over some of the Southern States.

While we certainly should not venture to diagnosticate diseases which we have never seen, we are not left without a basis

of fact from which to reason about them. A few years ago, we had not, in this country, any such data. But now, the returns compiled by the Statistical Committee of the American Dermatological Association, furnish valuable testimony on such points as these. It has been objected to these returns that they claim to be what they are not, viz., statistics of all the skin diseases that occur throughout the country. No claim could be more preposterous. The very objection involves the one feature for which these statistics are really valuable. They are not gathered indiscriminately from all sources, but are solely obtained from careful records made by a few men at widely different points in the country, each of whom has special facilities for the observation of skin diseases, and a reputation for some skill in their diagnosis. Consequently, one chief objection to the mass of medical statistics in general, is here eliminated.

From the year 1878 to 1882, this committee reported 58,617 cases of skin diseases of all kinds; and the total number of cases of scabies included in the list was but 665, that is 1.10 per cent. The year 1884 was an exceptional one as regards scabies. Out of 9,329 cases of cutaneous diseases, reported by these gentlemen from Boston, New York, St. Louis, Chicago, and Canada, there were 339 cases of scabies. This relatively great increase was largely due to local causes, however; for of these cases, Boston reported 179, and accompanied these figures with a note calling attention to the increase. It is interesting to specify that of the cases collated in 1884, only 33 were seen in private practice, the remainder, 306, being observed in dispensary or public patients.

When we look to the several countries of Europe for information on this point, we find that Scotland enjoys an unenviable preëminence in the preponderance of itch. In 1873, Dr. Mc-

Call Anderson, of Glasgow,* classified ten thousand consecutive cases of skin disease occurring in the public practice of his city, and of these no less than 2,527 were cases of scabies. Of one thousand consecutive cases of skin disease occurring there in private practice, only 44 were classed as scabies.

In the year 1868, the late Sir Erasmus Wilson† collated the statistics of 5,000 consecutive cases of skin disease, as they occurred among the "wealthier classes" in Great Britain. Of this number, 184 only suffered from scabies.

Now, looking further into these facts, it is apparent that both in Scotland and America, these figures are derived from observations made in cities. It is in the large capitals of Europe that the poor and the filthy are closely congregated; furnish thus the best culture-field for acari; and from them, by annual emigration, the American colonies have been regularly recruited. It is for this reason that the seaboard cities of this continent are always able to report a somewhat larger proportion of cases of scabies than can the cities of the interior; and, as for the country towns in the interior, the ratio of from one to three per cent. of the same disorder to all cases of skin disease falling under the observation of physicians, must be greatly reduced.

Once it was different. In the old Colonial and Revolutionary days, our ancestors had come so lately from the country where the itch prevails, that the accidents of their former environment were retained to an uncomfortable extent. One can scarcely look over the small news sheets of that period without seeing several advertisements calling attention to some specific, vaunted for the itch. These notices, indeed, supplied the pabulum for the journalists of this day, that is now

* On the Treatment of Diseases of the Skin, 1873.
† Jour. of Cutaneous Medicine, vol. I., 1868, pp. 389.

derived from the enterprise of the men who sell "liver-pads" and "blood purifiers." Gradually the people of the country began, in a large sense, a life of independence; and in proportion as they did this, they ceased to suffer from the itch. The country was too large, water too abundant, soap too cheap, and big cities too few, to furnish sufficient encouragement to the *sarcoptes hominis* to linger here long. But when the year 1861 found the country embarrassed with a civil war, hundreds of thousands of its citizens were congregated in regiments, camps, prisons, barracks, and hospitals. Among them were many newly arrived immigrants, who enlisted almost as soon as they landed; and brought the itch once more into conditions so like those in which it flourishes in the overcrowded cities of Europe, that the acari again bred freely on this continent. When the war was ended, and the soldiers returned to their country homes, again the proportion of scabies to other cutaneous disorders gradually declined to the point represented by the figures given in the consolidated five-years-report of the statistical committee to which attention has been directed above. It is interesting to note that a similar proportionate increase and subsequent decrease in the number of cases of scabies recorded in England was observed after the return of the British army from the Crimea.

It follows, then, that if there are "5,000" persons in Louisville suffering from the itch, and thousands more in the cities of the Northwest, from which the reports come that "every man, woman, and child in the town" is affected with the same disease, it is one of the most exceptional and surprising facts in the medical history of this country, and quite unequaled by anything known to exist in the old world.

Still, and this is a matter of great moment, if there are even from one to three per cent. of all cutaneous diseases which

depend upon the presence of acari, it is highly important that the symptoms of their presence and ravages be well understood. No man is so good a diagnostician as he who understands the exceptions to the rule. For that reason it will not be out of place to look for a moment into the features by which scabies is to be differentiated from the pruritus and eczemas that furnish the real theme of this paper.

They are all, indeed, surprisingly alike. The reason for this resemblance is clear. In all, the skin is greatly irritated; in the one case, by cold air; in the other, by a parasite attacking the skin. The result is the same, a pruritus differing in degree in different cases, but which may be as severe in one disease as in another. Then follows the scratching, which gives almost the same clinical portrait to each of the affections named. No wonder they resemble each other. No wonder that the physicians in Louisville are reported to be rubbing sulphur salves over their tormented patients. The plates illustrating scabies in Hebra's superb atlas will answer very well indeed for many typical cases of the diseases now prevalent in the Northwestern States. Hebra had in his life observed 40,000 cases of scabies, and drew a masterly portrait, which is to-day unrivaled, of that affection. But it may be doubted whether he had in all his experience encountered the skin diseases which most closely resemble the clinical picture he has drawn of scabies, for the climate in which he lived does not seem to have supplied them to his wards. It was reserved for an American, and after him an Englishman,* to first name and describe the disease as it occurs in ruder climates than that of Austria. We might, however, believe, after a perusal of their papers, that neither of these two eminent writers, for

* See Mr. Jonathan Hutchinson's paper on "Winter-Prurigo," Lectures on Clinical Surgery, vol. I, p. 100. London, 1878.

the same reason, appreciated, when they wrote, the extent and gravity of this group of disorders as they occur in the northwestern part of this country in the season of winter.

Naturally, the first point to which we turn in the study of the differential diagnosis of scabies, is its contagiousness. One excellent author describes this disorder as "highly contagious;" and we know that it may be communicated by the shake of the hand. But we must make some reserve here. While scabies may be communicated by hand-shaking, it is rarely so communicated. I have again and again handled patients affected with the disease without incurring any unpleasant results in my own person; and it is a well-known fact that in the amphitheatre of medical schools and hospitals, patients with scabies are frequently passed around among physicians and students for close personal examination, with the rarest effect of spreading the disease in this way. There are several facts which must be considered in this connection. In the first place, the acarus family find nutriment, shelter, and all they require for comfort on the person of the individual whose skin they inhabit; and there is no great inducement for them to colonize upon a strange skin at the instant of the first opportunity offered. In the second place, the transfer of a male acarus alone, from one person to another, would not ensure a generation of the young. In the third place the unimpregnated female could not alone accomplish a large success as regards a progeny; and as for the impregnated female, Hebra on several occasions failed to induce scabies when one such only was transferred intentionally to a sound skin and seen to penetrate it. Lastly, the eggs alone would not suffice, for these have to be nicely planted within the epidermis, in order to be hatched safely to maturity. In brief, only the more intimate contacts of the bed at night, and the application of nails charged with

acari of both sexes, especially the young, are to be regarded as most effective for the transmission of the disease. That is one reason why nearly seven men are found to be affected with scabies to one woman. Women are, as a rule, more inclined to sleep alone, or with those only to whom they have family ties; while laborers, boys, apprentices, and persons of that class, including those who are strangers to each other, at times occupy the same beds, especially in the large cities where they are often huddled together at night like swine. Everything said and done, scabies is one of the filth diseases; while the winter disorders of the skin affect all classes alike; women as much as men, those who wash as much as those who do not wash, the occupants of the mansions of the wealthy and of the cottages of the poor. Indeed, when any disease affects equally all classes of society, its cause should always be sought among the more common rather than among the rare agencies of the generation of disease. Parasitic will probably be always numerically fewer than non-parasitic disorders. The general involvement of all or a very large number of people at one time in a given community, points always to a disease-cause of very wide operation; and such a cause, in the winter diseases under consideration, can be recognized in temperature changes in the atmosphere.

Nothing, however, could be more untrustworthy, than the testimony as to the origin of their disease, given by patients who have been subjected to the operation of that cause. They will often describe with astonishing minuteness the occasion of their infection, and the particular individual from whom they contracted their disease. In this way, the joint occupancy of a bed with a friend or a stranger; the apartment of a hotel in which they have been guests; the wearing of garments loaned them by their friends; and even

more casual accidents of personal contact, are urged as the mode by which their disease was transmitted to them.

Looking, next, closely to the eruptive phenomena in scabies, it is needless to say that the burrow made by the female acarus as she penetrates the epidermis, is regarded as a pathognomonic symptom. But it should not be forgotten that the burrow may be wanting, or not discovered; first, because the acari actually upon the skin have not yet excavated these tunnels; or, second, because the fingers have torn the skin so as to disguise the lesions. In the first case, time will reveal a difference; and in the second, a more careful search must be made for the intruders.

When the burrow exists, it can be most perfectly recognized in the inter-digital spaces and on the skin of the penis, as a tangential line, running from a vesicle, papule, or pustule, to a distance of from one-eighth of an inch to an inch. It resembles a beaded, dotted, yellowish, or blackish thread, the color being more pronounced in comparison with a fresh colored and washed skin, and less marked in contrast with a soiled surface; being, in a soiled and subsequently washed integument, most conspicuous in proportion as the small puncta have served to entrap particles of dirt. The cuniculus may be curved, angular, or tortuous; and occasionally may be seen well nigh completely covered by a bulla, pustule, or vesicle extending its entire length. In such cases, however, the female always penetrates beyond the peripheral wall of such lesion, working her gallery beyond it and more deeply, lest she be lifted by the exudation out of reach of the succulent rete where she feeds.

The intruder may be recognized always at the terminal extremity of her gallery, for it is now known that she does not in her life-time leave it for any purpose, as was at one time taught. The female acarus here shows as a minute, whitish,

clearly defined dot, presenting a contrast in this particular with the blackish fæces in the gallery behind; and may be, in a good light, by a person of some dexterity and fair eye-sight, extracted on the point of a cambric needle, from her lodging point. It is important to know that this parasite may be recognized by the unaided human eye; and its characteristic tortoise-like body exhibits most of its anatomical peculiarities under a glass enlarging the figure but one hundred diameters. It is not, therefore, a "microscopic animalcule, totally invisible to the eye," which is often claimed to be the cause of the disorders forming the theme of this paper, but is an object that was recognized by man before he ever looked through the first microscope. In the last century even, "old women" obtained a reputation for the discovery and extraction of the itch-mite from the human skin; and the many sharp-eyed practitioners in the Northwest, in the middle hours of even the shortest days of the winter, are surely able to do as much and more.

The "head" of the gallery is usually whitish, where the parasite first entered the skin; and is also more elevated than the "tail," where the acarus rests after laying its dozen or more of eggs. At times, the entire cuniculus forms an elevated ridge, rather than a thread-like depression, with white dots along its summit. When the roof of the vesicle at "the head" is torn off by scratching, the effect is to produce a reddened spot at its site, surrounded by a whitish moat running around the spot to the entrance of the gallery.

The itching which results from this epidermic tunnelling is severe, and noticeably more severe than would be suggested by the moderate number of skin lesions visible. When these lesions (puncta, vesicles, pustules, blebs, papules, resulting crusts, furrows, excoriations, etc.,) are found upon the hands, the itching becomes so great that the infested person scratches

also the accessible parts of the skin, where there were originally no acari, such as the inside of the thighs, the lower belly, etc., as Hebra suggests, simply because they are "handy." Hence it is that the picture comes to resemble that of all pruritic and scratched skins. The regions affected by the eruption are the palms (especially of women and children) and dorsal surfaces of the hands; the sides and roots of the fingers, and toes; the wrists; the feet (and, especially in women, the delicate skin of the feet near the instep, partly dorsal, partly plantar in situation;) the buttocks, (more particularly in those who are seated in the trades and occupations of life); the extensor faces of the joints; the belly; the penis, in men; the anterior folds of the axillæ; the nipple and breast of women; and the elbows and knees, rather than the popliteal space and bend of the elbow. Hebra points to the fact that between two parallels, one drawn through the nipples, and another at a short distance above the knees, on the anterior face of the body, can be recognized the greater part of the eruptive lesions in every case of scabies, where the skin has been well scratched. He adds that pustules on the buttocks are almost conclusive evidences of the presence of the acarus in cobblers and workmen who sit at their trade; that pustules on the fingers and toes, and of the hands and feet, especially in children, are almost equally conclusive evidences of the malady; and that other regions pressed upon by clothing, such as those touched by trusses, pads, corsets, etc., are places where the parasite multiplies freely. The exemption of laundresses, persons employed in public baths, and those whose occupation requires much application of soap and water to the surface, has been noted by several authors. In infants, the parts brought into contact with the breast and hands of the mother and nurse, are those most apt to be involved; such as the face, the palms of the

hands, buttocks, and, indeed, when infants are at the breast, all parts of the body.

Lastly, as regards the progress of the case, the winter disorders described above are better and worse according to the temperature changes in the atmosphere, and are not benefited to any appreciable extent by the external use of parasiticides; while the course of unrelieved scabies is ever toward a steady aggravation, being readily arrested with, at the worst, sequelæ of a mild eczema, when properly treated.

I have devoted so much space to the important question of the distinction between the winter diseases of this part of the country and scabies, that space is not left in which to do justice to the opinions held by the second class of patients described above. These believe that the maladies of the skin here discussed are due to "impurities of the blood." This is an old doctrine. It dates from the period of the "melancholic juices" of Galen, and suggests that aphorism of Hippocrates, in which it is declared that "when furfuraceous particles are discharged along with the thick urine, there is scabies of the bladder." It runs like a blood-red strand through almost every cord used since in medicine, wherewith to tie up a bundle of errors. Even the itch did not escape this misfortune, after it had been demonstrably produced by the presence of acari. One of the forlorn pictures presented by dermatology to the history of medicine is that representing the eminent Devergie, writing in 1877,* with a full knowledge of all the damage produced in the skin by the presence of the sarcoptes hominis, that he "attributes a secondary importance to the acarus in the itch," and that this malady can be "spontaneously induced." The internal remedies that have been administered for relief of the itch no man can number. Unfortunately,

* Traité Prat. des Maladies de la Peau, Paris, 1877, p. 565.

the "blood purifying" remedies employed in the winter diseases of the skin almost invariably aggravate the latter. The worst phases of these maladies are those in which the salts of potash, mercury, and arsenic have been pushed to the fullest extent, in the vain hope of thus securing relief.

The therapeutic problem presented is this: first, to allay the irritability of the skin; second, to relieve the eruptive symptoms, whether these be the result of traumatism or of the action upon the skin of the cold air; third, to accomplish these results when the major cause of the disease is periodically in full operation, since it is obvious that the number of sufferers is far too great to admit of their general removal to a more temperate climate; fourth, to accomplish these results without the use of anodynes and narcotics to induce sleep at night, the most of which in the end aggravate the disorders by their secondary effects upon the nervous system; and, lastly, to set aside the minor causes of aggravation of the disease, in a skin rendered unduly sensitive by the operation of the major cause described.

As these pages have already surpassed the limits originally intended, the consideration of this part of the subject must be deferred to a second paper.

ARTICLE II.

REPORT TO THE GYNECOLOGICAL SOCIETY OF CHICAGO ON TWO CASES OF EXTRA-UTERINE PREGNANCY FROM EXAMINATION OF THE SPECIMENS *presented by* CHRISTIAN FENGER, M. D., *Surgeon to Cook County Hospital, Professor of General Pathology and Pathological Anatomy, Chicago Medical College. Member of the American Surgical Association.*

[Read before the Chicago Gynecological Society, Feb. 20th, 1885.]

Mr. Chairman and Gentlemen of the Society: The exact anatomical diagnosis or minute classification of an extra-uterine pregnancy is easy enough in the early stages of the disease, but it becomes more and more difficult in the latter half and towards the termination of the pregnancy.

In the earliest months of the pregnancy, it is only by accident that a pathological specimen is found. Here the exact diagnosis is easy enough. From the third to sixth months, specimens are secured by operation or after death, as the result of hæmorrhage from rupture, and here the diagnosis is still comparatively easy.

In the latter half of pregnancy, from sixth to tenth months, the diagnosis, viz., exact location of fecundated ovum, becomes often exceedingly difficult, next to impossible, on account of secondary changes, and often partial destruction of Fallopian tubes and ovaries, and still more difficult, if a fatal peritonitis has contributed to mask the normal anatomical features of the organs in question.

The two specimens, sent to me for examination, belong to the class of late and consequently difficult cases, and in one of them the specimen was very much decomposed. Nevertheless, I think that a close examination of the specimens permits of a

comparatively exact classification of the two cases; at least, of one of them.

Before describing and demonstrating the specimens, permit me to recall to your memories the different forms of extra-uterine pregnancy.

Extra-uterine Pregnancy.—The ovum is arrested somewhere in its normal passage from the Graafian follicle down to the *cavum uteri*, or drops out of the passage, without or after rupture of the latter, into adjoining cavities or spaces.

1. *Ovarian Pregnancy.*—The ovum remains in the ovary. *Epi-ovarian Pregnancy.*—The ovum develops on the ovary, having left the Graafian follicle.

2. *Abdominal or Peritoneal Pregnancy.*—The ovum falls down into the peritoneal cavity, and does not enter the Fallopian tube at all.

3. *Tubal Pregnancy.*—

I. Tubo-abdominal or tubo-ovarian pregnancy.

II. Tubal pregnancy.

III. Tubo-uterine, or interstitial or mural pregnancy.

4. *Extra-peritoneal Pregnancy* in the broad ligament after rupture of the Fallopian tube.

5. Pregnancy in one side of a *uterus bicornis.*

6. *Secondary Abdominal or Peritoneal Pregnancy.*—Ovary, tube, or even uterus (*bicornis or normal*) is ruptured, the fœtus slips into the peritoneal cavity, but remains in connection with the primary sac.

I shall first describe and demonstrate Professor Byford's CASE, No. 2.

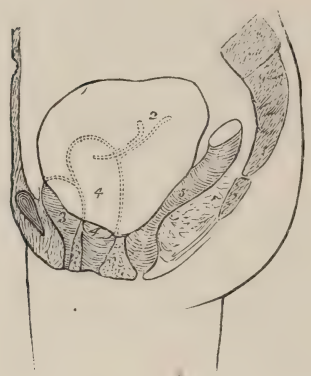
The uterus is large, four and a half inches long, three inches broad, at the fundus; the cavity also considerably enlarged. In *left* side of uterus and vagina, I find an incision opening, three and a half inches long, closed with silk sutures,

leading from the uterus and vagina into the sac, or as some members of the Society called it, the adventitious uterus. The sac can only be seen in fragments. Its wall is one to two lines thick, the outside partly covered with peritoneum, partly adherent to the surrounding organs, viz., bladder, uterus, omentum. The rectum I do not find. Right ovary and Fallopian tube are missing.

The left Fallopian tube shows the following conditions: the uterine portion is of normal size, passable only for a thin probe, one-half mm. in diameter; at the distance of one-half inch from the fundus, it is wider, one-eighth of an inch in diameter, and so it continues for four inches; then it suddenly dilates to one inch in diameter, continues so for one inch, and thereafter opens into the fœtal sac, the wall of the latter going continuously over into the wall of the tube.

CASE II Fig. 1.—Anterior view of sac and pelvic organs, left Fallopian tube laid open except in its uterine portion.

1. Uterus.
2. Vagina.
3. Bladder.
4. Inside of fœtal sac.
5. Fallopian tube dilating and opening into the fœtal sac.



CASE II Fig. 2.—Sac and pelvic organs seen from the left to show situation of sac.

1. The sac.
2. Dilated end of Fallopian tube opening into or continuous with the wall of the sac which partially covers the following organs :
3. Bladder.
4. Uterus.
5. Rectum.

The left ovary cannot be found. Large shreds of the membranes of the ovum, viz., amnion and chorion, adhere to the sac here and there. Inside of sac is dark, brown-spotted, the color of decomposed blood. This condition is most pronounced in the part of the sac that covers the posterior wall of the bladder and the anterior and posterior walls of the uterus. On the uterus, the sac is thinner and more adherent (no sub-serous connective tissue) than on the bladder, where the wall of the sac is about two mm. in thickness, firm and movable against the bladder.

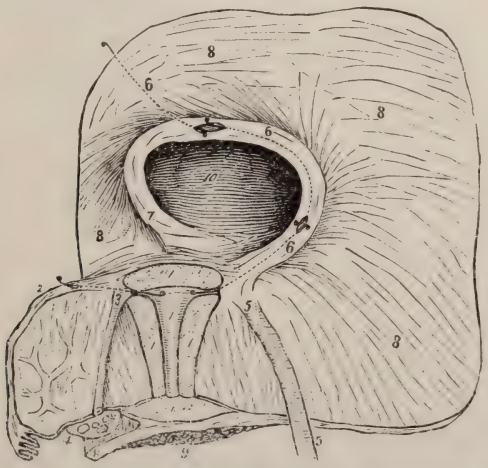
From the condition in which we find the left Fallopian tube, I think it safe to conclude that the ovum has developed in its outer half, near the abdominal end of the tube. The funnel-shaped dilatation of the tube in this place and the thickening of its wall, which continues uninterruptedly as the wall of the fœtal sac, prove the connection between the two cavities, and

this case of extra-uterine pregnancy would thus be of the *tubo-abdominal* variety. I believe that the ovum has commenced its development in the tube, and then, with or without rupture of the latter, has formed its sac on the surface of the pelvic and surrounding abdominal organs. In this respect, it might be classified as a secondary abdominal or peritoneal pregnancy, originating in the abdominal end of the left tube.

PROFESSOR BYFORD'S CASE, NO. 1—This case has a greater interest, partly because the specimen is in a good state of preservation, and partly because some of its features seemingly point to one, others to another of the varieties of abdominal pregnancy.

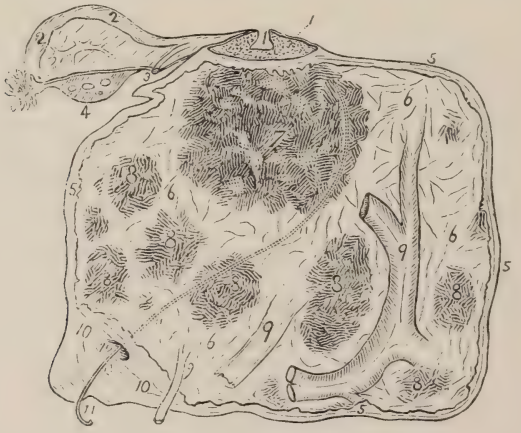
In this case, as will be remembered, laparotomy was performed, and part of the cyst, the placenta and the upper two-thirds of the uterus removed. I shall not undertake, here, to describe the child, as it is irrelevant to the matter in question.

We find the uterine appendages of the right side, viz., broad ligament, round ligament, Fallopian tube and ovary normal, (vide Case 1, Fig. 1.)



CASE I Fig. 1.—Anterior view of uterus, its appendices and the extra-uterine sac.

1. Uterus laid open, fine silver wires passed through the uterine portion of both Fallopian tubes.
2. Right Fallopian tube.
3. Right round ligament.
4. Right ovary.
5. Left round ligament, enlarged but in normal position, viz., commencing at upper corner of uterus.
6. Ridge or the upper free border of the pocket (10) containing the left Fallopian tube through which silver wires (dotted lines) are passed. It is seen that the Fallopian tube only passes through the first two-thirds of the ridge, and then branches off, backwards and downwards (dotted line) to penetrate into the wall of the sac.
7. Terminal end of the ridge—probably the left ligamentum ovarii.
8. The sac.
9. Place of the placenta.
10. Pocket on upper posterior wall of sac.



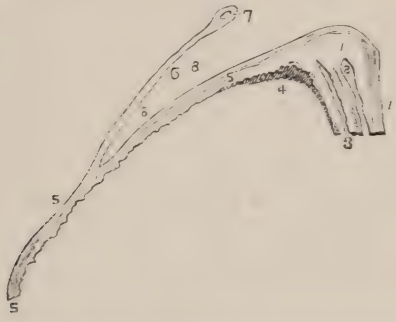
CASE I Fig. 2.—Inside of the extra-uterine sac seen from below.

1. Uterus—transverse section of the neck, where the uterus was amputated, shows the open cavity of the neck.
2. The right Fallopian tube.
3. Right round ligament.
4. Right ovary.
5. The wall of the sac.
6. Inside of sac, with
7. Place of the placenta right behind the neck of the uterus.
8. Accessory placenta places.
9. Large vessels on and in the inside of the sac.
10. Place where the outer layer of the wall of the sac is separated from

the inner layer because the wall has been cut obliquely here at the operation.

11. Probe in the left Fallopian tube.

12. Oval opening on the inside of the outer layer of the sac, viz., termination of the Fallopian tube or cross-cut of the Fallopian tube just before it (probably) opened into the cavity of the extra-uterine sac.



CASE I Fig. 3.—Sagittal section through the uterus and the sac showing the pocket on the posterior wall of sac.

1. Uterus.

2. Cavum uteri.

3. Space (dissected) between posterior wall of the uterus and anterior wall of the sac.

4. Place of the placenta on inside of sac behind the uterus.

5. Wall of the sac.

6. Posterior wall of the pocket, that is, the tubular or Fallopian fold of the left broad ligament.

7. Left Fallopian tube, cross-cut showing its lumen.

8. Pocket between 5 and 6.

The uterus, amputated about the middle of the neck, is of normal size, viz., the cavity, one and one-quarter inches between the two uterine orifices of the Fallopian tubes. Farther down, one inch, still lower down one-half inch, and in the neck one-fourth inch, broad. The average thickness of the uterine wall is one-half to three-fourths inch. To the left and behind the uterus and in uninterrupted connection with its surface is the sac or adventitious uterus. Fig. 1 shows the uterus and sac seen from the anterior side. From the anterior surface of the sac, one-fourth inch from the left corner of fundus, is the left round ligament; it is enlarged, one-fourth inch in diam-

eter. On the upper surface of the sac, behind and to the left of the *fundus uteri*, is a pocket covered with peritoneum, two and one-half inches broad, three to three-and-a-half inches deep (vide Case 1, Fig. 3). Case 1, Fig. 1^{10}.

The upper free border of the pocket, or broad ligament, forms a somewhat thickened *ridge*, which runs in an arch, first to the left backwards, then to the right, then divides into two branches, a lower one that runs downwards and to the right, an upper one that runs forwards to the left, pointing toward the left corner of the uterus. The ridge contains the left Fallopian tube (vide Figs. 1, and 3). The tube is seven inches long—the same as the right tube. It runs to the left backwards, in an arch, and then bends to the right downwards and backwards; here it leaves the broad ligament, and the canal enters the wall of the sac. How it terminates, if on the inside of the posterior wall of the sac (vide Case 1, Fig. 2), or not, cannot be made out for certain, because the sac is cut off here; but as there are no *fimbriæ* it does not open outside of the sac, and has undoubtedly opened into the foetal cavity.

The uterine portion of tube is of normal size, only permitting the passage of a very fine probe. The median portion of the tube is normal, perhaps slightly dilated, three to five lines wide.

The termination of the tube in the wall of the sac, Fig. 2^{12}, is an oval opening, one-fourth inch in diameter, the borders of which are perfectly smooth, no *fimbriæ* visible anywhere.

Of the left ovary, no trace can be found. The sac is clad on the outside with the peritoneum, and is smooth.

The wall of the sac is from one to eight mm. thick, white and firm. The thickest part of the sac is right behind the *fundus uteri*, one-fourth to one-half inch in thickness, and there the tissue, viz., fibers of the uterine tissue of upper surface

of fundus, is continuous with the wall of the sac; however, on the posterior surface of neck and fundus, the tissue of uterus is *not* continuous with the sac, but the latter is separated from the uterus by a short layer of connective tissue, that permits of dissection and leaves the posterior surface of uterus and wall of sac with smooth surfaces. This is the place where the placenta was situated. (Figs. 2^7 and 3^4.) The inner surface of the sac has an uneven, ragged or velvety appearance, most ragged over the site of the placenta, close to and behind the neck of the uterus. Outside of this region, there are numerous islands of uneven, ragged appearance, with more smooth spots between them. Several large vessels, one-fourth inch in diameter (vide Fig. 2^9), are found, partly free, partly adherent to the inside of the sac.

A microscopic examination of the wall of the sac shows the following:

a. In the site of the placenta.

1. An inner layer of free cotyledons or *fimbriæ.*

2. A layer of maternal tissue, with cross cuts of the cotyledons, imbedded in cavities (whether lymph spaces or blood vessels, I am unable to decide, but they look to me like venous blood vessels) tightly surrounding them.

3. A heavy layer of connective tissue bundles, interspersed with some organic muscle bundles.

4. Peritoneum.

b. A thick spot in the wall, near the peripheral opening of the Fallopian tube into the sac, which I examined to find ovarain tissue, presents exactly the same appearance as *a.*

c. A thin place in the sac, some distance from placenta and tube, gives,

1. An inner layer of areolar connective tissue without cotyledons.

2. A median heavy layer of connective tissue bundles and bundles of organic muscle fibers.

3. Peritoneum.

d. A third place in the sac presents the same layers as *a.*

Nowhere in the wall of the sac, is any trace of ovarian tissue to be found.

In considering the anatomical diagnosis of this case, I shall have to take into consideration mural, ovarian, tubo-ovarian and tubo-abdominal pregnancy.

1. *Can it be a mural or interstitial pregnancy?* The continuity of the sac (in the site of the placenta) with the upper surface of the fundus belongs to the signs of mural pregnancy.

The uterine portion of the Fallopian tube is of normal length and width, consequently, the ovum cannot have lodged and developed here. However, a persisting "Gärtner's duct" might, perhaps (it is doubtful), form a lateral branch of the tube and run in the wall of the uterus. Baudelocque, "the nephew," claims that a mural pregnancy can take place when the fecundated ovum lodges in this blind branch. Kleinwächter, in his article, "Tubal Pregnancy," in Eulenburg's Encyclopedia, remarks that this statement of Baudelocque's has yet to be proved.

Aside from Gärtner's duct, there is another anatomical anomaly that might give rise to a mural pregnancy, outside of the uterine portion of the Fallopian tube. Through the kindness of Professor Jaggard, of Chicago, my attention was called to this variety. The ovum may develop in a branch of a bifurcated Fallopian tube. Hennig* (Die Krankheiten der Eileiter und die Tubar-schwangerschaft) has an illustration showing a canal branching off from the Fallopian tube in the lateral wall of the uterus; the branch turns downwards and inwards in the uterine

*Lusk—"The Science and Art of Midwifery."

wall, and opens into the cavity of the uterus at the internal os. If the ovum is arrested in this branch, a mural pregnancy results. The sac will push the broad ligament and the appendices outwards and upwards, and we will expect, as in the ordinary mural pregnancy, to find Fallopian tube and ovary on the outside of the sac, and further, we must expect that the round ligament should be dislodged outwards some distance from the border of the uterus. Consequently, in our case, we cannot admit a bifurcated Fallopian tube as the seat of the pregnancy.

But supposing a mural pregnancy had taken place here, and consequently the uterine portion of the Fallopian tube could be found open outside of the sac: then we demand in this case certain conditions, that cannot very well be dispensed with, and they are the following:

The abdominal end of the Fallopian tube, together with the ovary, must be found somewhere on the outer wall of the sac, and opening into the peritoneal cavity.

Supposing that the ovary, for some reason or other, was not found and the abdominal end of the Fallopian tube was obliterated and buried in the wall of the sac, we might yet have had a mural pregnancy.

In this case, however, the Fallopian tube opens into the wall of the sac. If it has opened into the fœtal cavity, it can not be seen on this specimen. (However it looks as if it had probably done so.)

The round ligament in mural pregnancy is expected to be pushed outwards some distance from the side of the uterus. This might be different if the ovum could develop in the posterior wall of the uterus; but this possibility has never been proved. Gärtner's duct does not run in the posterior wall, but from the parovarium first in the broad ligament (in the same fold as the Fallopian tube), then in the muscular substance of the lateral

border of the uterus and down on the side of the vagina where it terminates blindly.

The sac can be dissected off from the posterior wall of the neck and *fundus uteri*, which looks as if the sac developed on the posterior surface and not in the posterior wall of the uterus.

Thus, although the positive proof against mural pregnancy, viz., the opening of the Fallopian tube into cavity of the sac, is wanting (the fault of the specimen), then as all signs of mural pregnancy are absent, except the apparent continuity of sac wall and uterus, I shall declare against mural pregnancy.

The microscopic examination of Dr. Byford's Case (No. I), (our second Case) does not give any points as to the solution of the question of mural or tubo-ovarian pregnancy; the sac here consists just exactly of the same elements as I have found in a case of abscess of the broad ligament, in a wall as thick as the sac in its thickest parts. The presence of organic muscle-fiber in the sac, and the continuity or connection between the muscle-fiber of sac and uterine wall is of only secondary diagnostic significance, for the following reason: the organic muscle fiber or cell belongs to the *proletaires* (so to say) amongst the tissues; it is of the connective tissue class, can be formed and found everywhere where connective tissue is formed and found. In fibro-myomata or myo-fibromata, it is often impossible to determine what is a muscle cell and what is a spindle-shaped connective tissue cell. Consequently, continuity between muscle-fiber in sac and muscle-fiber of the uterus does not mean that the former originated in the latter.

The next question then is this: Is it an ovarian, tubo-ovarian or tubo-abdominal pregnancy?

In an ovarian pregnancy, we require, (1.) that the Fallopian tube does not participate in the formation of the sac (Kleinwächter). (2.) Ovarian tissue is found in the wall of the sac.

(3.) That there is a connection between the sac and the uterus through the *ligamentum ovarii.*

Of a tubo-ovarian pregnancy, we would require (1), that the peritoneal end of the Fallopian tube participates in the formation of, that is, opens into the sac, (2), the ovary may be intact, but it may also have been used up in the formation of the sac and have disappeared either entirely or only remnants may be found in the wall of the sac.

(It is easy to see how difficult it may be to find microscopic remnants of ovarian tissue in the wall of a sac one hundred times or more the size of a normal ovary).

As near as we, in my opinion, are able to to come to an exact diagnosis in this case, I should pronounce it a *tubo-ovarian pregnancy.*

The exact location of the spot where the fecundated ovum has commenced development, it is of course impossible to prove to satisfaction. Still there is one interesting feature in this case, which, in my opinion, throws some light on this point. This is the pocket, the blind pocket, on the upper wall of the sac behind the uterus, (vide, Fig. 1^{10}, and 3^{8}.) As before stated, the upper side of the posterior wall of the pocket, viz., the *ligamentum latum*, or the Fallopian fold of this ligament, forms a circular figure, commencing at the left border of the fundus and terminating at about the same point; from the connection between the middle and outer third, a branch goes off downwards and to the right. The Fallopian tube is contained in the first two-thirds of the ridge and in the branch. The final third of the ridge, that does not contain the tube, but runs back towards the left corner of the uterus, would, in my opinion, correspond with the *ligamentum ovarii.* (Case I, Fig. 1^{7}) The formation of the pocket, clad with the peritoneum and having as upper border, the above-described ridge, can, in my opinion,

be explained if the ovum has been arrested and commenced development in the *ligamentum "infundibulo-ovarianum"* (Henle) between the *fimbriæ* that line the sulcus leading from the distal end of the ovary to the *ostium abdominale* of the tube. If the ovum is developed here, it can, with the vessels of the chorion, first, reach the abdominal ostium of the tube, and thus permit the tube to open into the sac. Second, it can reach down on the lower or posterior surface of the ovary, and thus during its growth lift up the ovary at the same time as it destroys it, but in lifting it up, preserve and enlarge the peritoneal fold or pocket that normally exists between the posterior surface of the peritoneal fold containing the Fallopian tube and the anterior surface of the peritoneal fold containing the ovary and the *ligamentum ovarii.*

In case the fecundated ovum, from the ruptured Graafian follicle, had dropped down below the ovary, and had been arrested or taken hold on the peritoneal surface of Douglas' fossa or on posterior surface of ovary, if a development in such a way and place is possible, the pocket could be formed of course, but we could not expect to have the Fallopian tube open into the wall of the extra-uterine sac. If the pocket in question is formed in cases where the ovum has been arrested in the peripheral end of the tube, I do not know, as my access to original literature on this subject has been extremely limited, and the common text and hand-books, of course, do not contain anything like a detailed description of any of the cases in question.

In the proceedings of the meeting of the Gynecological Society of December 19th, 1884, Professor W. H. Byford is recorded to have said, (CHICAGO MEDICAL JOURNAL AND EXAMINER, Jan., 1885, p. 64) as follows: in the first Case (our Case No. II, where operation was performed), he thought that the fecundated ovum had passed through the tube, but found some

diverticulum in the uterine cavity, had passed into the uterine wall and developed in this region, pushing the wall before it. The muscular element of the sac was directly continuous with the uterine muscle. Further, p. 64–65: "It is not necessary for the production of mural pregnancy that the tubes be involved."

A Diverticulum in the uterine wall that would permit the ovum to develop down between the muscle in the wall, is as far as I know, not known or proved, but such a condition might be accepted in a proved mural pregnancy in which the Fallopian tubes were not involved.

A Gärtner's Duct, as place of development for the ovum, is not proved either. But accepted as a possibility, let us see what would be the consequence. The ovum would be arrested either in the extra- or the intra-uterine portion of the duct. (I do not know of any communication opening between Gärtner's Duct and the Fallopian tube; does it exist?) If developed in the *extra-uterine portion* of the duct, that runs in the Fallopian fold of the broad ligament, the formation of the pocket in this Case (No. I) would be impossible. The ovary might disappear and the tube might run in the wall, but ought to open into the abdominal cavity.

If developed in the intra-uterine portion of Gärtner's Duct, we would expect to have the Fallopian tube and the ovary intact on outside of sac, just the same as in mural pregnancy from the uterine portion of the Fallopian tube. How great value in diagnosis of mural pregnancy, the fact has, that the muscle of the uterus is continuous with the muscle of the sac, I do not know; but in this case, apparently only the layers of the surface of the uterus are continuous with those of the sac, and in mural pregnancy I would rather expect to have the deeper layers participate also.

In conclusion, I shall proffer my thanks to the Society for

the honorable task entrusted to me, and ask its pardon in that the material in question, and the literature at my disposal have not enabled me to give a more satisfactory report of the matter.

214 East Ohio Street, Chicago.

ARTICLE III.

FUNCTIONS OF THE MEMBRANES IN LABOR.

HENRY T. BYFORD, M. D., OF CHICAGO.

[Read before the Chicago Gynecological Society, Feb 20th, 1885.]

"It is hardly an exaggeration to state that the greater portion of the sins of midwifery practice are committed in the management of natural labor," says Lusk, in his "Science and Art of Midwifery," page 202, and on page 238, again, "The *os externum* is usually torn, especially upon the sides, and the thickened labia roll outwards."

Other reliable authorities teach that one-fifth of the number of mothers suffer laceration of the perineum at the birth of the first child. Hæmorrhoids are said, by Barnes, and are generally considered, to be common results of ordinary labor. With such facts before us, we may well wonder, with the late Professor Gross, "why the Almighty did not create, simultaneously with woman, a competent gynecologist to meet these inevitable evils." It seems, indeed, like a reproach upon Him, the crowning work of whose intelligence was the creation of woman, that she should be the most poorly prepared of all beings for the reproduction of her kind. Was it always thus, or was child-bearing originally a "physiological phenomenon, not beyond the power of a healthy woman to patiently endure?"

If civilization be at fault, then we must again admit, with Professor Gross that "the sooner we get rid of this civilization the better will it be for our poor wives and daughters as pro-

creative beings." Or, if the above quoted "sins of midwifery practice" have anything to do with these evils, it is time we were abandoning some of the things we have learned in the past six thousand years, and that the management of natural labor, especially the care of the perineum, were so taught as to come within the mental grasp of the ordinarily intelligent medical graduate.

The departure from the methods now taught, upon which I wish to get an expression of your opinion, is the preservation of the membranes from rupture until they dilate, or aid in dilating, the vulva, as they are sometimes observed to do when they are unusually tough and the child is born with a "caul." I shall first say a few words about the possibility and probability of such a procedure and afterwards about the utility.

According to the present obstetric teaching, and practice, I believe, the patient in labor is encouraged to go about the room until near the end of the first stage, thus, whether purposely or not, stimulating the uterus to contraction and adding gravitation to the other forces that bear upon the membranes in the cervix. This practice, with subsequent pulling at the os with the finger, or pressure upon the abdomen whenever the pains lag a little, or both, often has for its effect the discharge of the amniotic fluid, at, or near the end of, the first stage. If, however, pursuing an opposite course, we put the patient to bed upon her side as soon as, or soon after, the os commences to dilate; and if the pains are more severe than can be easily borne (as they are apt to be in highly civilized communities), we give an opiate, or other anodyne, to keep her comfortable, the presenting bag will be relieved of the weight of the abdominal contents, and saved from the more intense and frequent action of expulsive powers that accompanies an erect, or semi-erect, position.

After the os is widely dilated, and the membranes receive but little support from the cervix, they will be less liable to rupture if we put the patient upon her back during uterine action. The head will be better able to form a ball valve, and thus take part of the pressure from the presenting pouch, viz.; as much as is required to overcome the elasticity of the ring of the cervix against which the descending head impinges. Now, after the os is widely dilated, when the resistance to the descent of the head is small, and the consequent strain upon the protruding membranes great, a change occurs which invalidates the reasoning by which some of the German authors, would make their rupture, or the bringing of labor to a stand-still inevitable at or near the complete opening up of the uterine neck. The membranes, being loosened from the lower segment of the contracting uterus, are pushed down through the dilated cervix along with the head, instead of being merely stretched; they come in contact with the undilated vagina and are supported by it; and, as the whole parturient canal is converted into one cavity, the head follows the bag of waters down to the vulva, just as it followed it down to the external os, aiding in the dilatation, and sharing the pressure from behind. The second stage of labor becomes a kind of repetition of the first, the dilatation of the vagina and vulva being an analogue of that of the cervix and external os.

The Germans divide the expulsive powers of the uterus into two factors, the "internal uterine pressure" and the "form-restitution power." The "internal uterine pressure" is the uniform pressure to which the whole ovum is subjected; the "form-restitution power" is the shortening of the uterus from above downwards and from side to side. When the os is fully dilated, the "internal uterine pressure" forces the lower end of the bag of membranes down into the vagina because

that is the direction of the least resistance, but the "form-restitution power," by shortening the uterus from above downwards, forces the head down against the cervix, aided by the shortening of the transverse diameter, which tends to keep the body of the child from being displaced sideways. Now, all of these forces are acting in a downward direction, and the os being dilated, and the membranes loosened, what is to prevent them from descending to the vulva?

The membranes, with such management, are subjected to no more strain during the second stage of labor than they are under the prevalent mode of treatment, during the first stage. In fact the pressure upon the membranes under the ordinary start-on-the-run management, is not usually sufficient to rupture them as early as is commonly supposed. In my experience they have either ruptured at or near the beginning of labor or else persisted after the os has been dilated. Students are taught to rupture at the end of first stage; and nearly all of the physicians I have consulted usually find it necessary to do the same. Indeed, recent graduates are apt to betray a thrill of pride at the recital of the number of times they have successfully performed this hair-pin obstetric operation.

Playfair states, page 251, that a child would more frequently be born with a caul "* * were it not the custom of the accoucheur to rupture the membranes artificially as soon as the os is completely opened up * *" Leishman, in the second American edition of his "System of Midwifery," 1875, page 261, says, in describing labor: "As the termination of the first stage approaches, the protrusion of the bag of the membranes becomes more and more marked; and as at the same time the pains usually become more violent, it often excites our astonishment that rupture is so long delayed." The only really astonishing thing is that one of such profound learning should be so often astonished at the same occurrence.

Scanzoni states, page 338, vol. I.: "For it often happens that the child is expelled immediately or shortly after the rupture of the membranes," an occurrence that must either be the result of a dilatation of the vagina by the membranes, or else an already dilated condition. In those cases where the soft parts are flabby and can offer no resistance to the passage of the head, the preservation of the membranes is, of course, unimportant; and as the vagina affords no support, they are liable to rupture at any moment after the os is opened up. But in primipara and multipara, whose soft parts had returned to a natural condition after previous confinements, every attention, even the slightest, that makes labor safer and easier, is of great importance.

Naegele not having been obliged, in his day, to maintain his reputation for learning by an analysis and theoretical discussion of the profusely titled powers and pressures of the gravid uterus, made himself quite comprehensible by simply advising against rupture of the membranes until their appearance externally at the vulva.

The following is a fair sample of a large proportion of obstetric cases in my practice since I have adopted this plan:

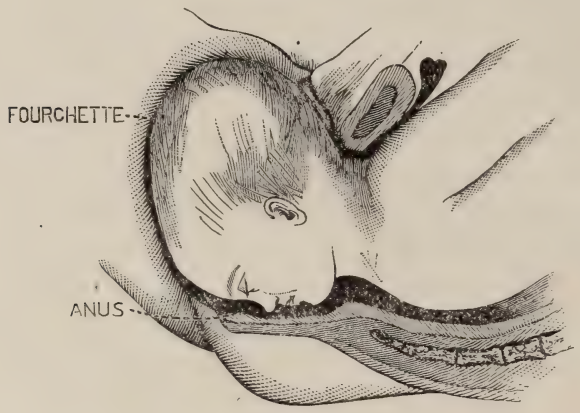
Mrs. M——, a healthy, robust, Canadian primipara, twenty-five years old, sent for me at 5 A.M. I found her suffering intensely with very frequent and very painful uterine contractions, which had commenced about six hours before. The os uteri was dilated to about the size of a silver twenty-cent piece, and in another hour to, perhaps, the size of a silver quarter, of a dollar, and the pains continued as before. I prescribed fifteen minim doses of McMunn's Elixir of Opium, to be repeated every hour until easier, and left her for two hours. I returned to her soon after she had taken the third and last dose and found her dozing between pains and not complaining at all. I

ruptured the membranes after they had protruded through the vulva and delivered her at 10 A. M. No unusual symptoms occurred then or afterwards, except that she (I use her own expression) "had the baby almost without any pain."

When the membranes are ruptured at the end of the first stage, there results, after a temporary rest, a rapid and very great change in the character of the labor, but when they are preserved from rupture it is impossible to tell, without the finger in the vagina when the first stage ends and the second begins. The torment that belongs to the stretching of the cervix subsides, and the labor gradually assumes a straining character, but only at the last moment, after the vulva is dilated to half or two-thirds of the size necessary for the exit of the head, is that severe suffering felt, of which primipara are otherwise wont to complain as soon as the head commences to bulge the perineum, or even after. The vagina is filled with a tumor so smooth and soft that its presence cannot be felt by the patient at any one point, so elastic that a light finger touch indents it, and yet the whole power of almost every uterine muscular fiber, bears efficiently upon it.

'Tis strange that obstetric science can teach the deliberate breaking up of this simple process of nature and the substituting of an unnatural and artificial one, by which nearly all of the fibers of the lower half of the uterus operate only to contuse its own structure against the bare parts of the fetus without materially aiding in its descent, while the fibers of the fundus jam the hard, rough, inelastic, and comparatively unyielding head, down through the vagina against the perineal center, bulging and stretching the perineum, according to Lusk, "from four to five inches in its antro-posterior direction," and all of this without any provision for a gradual dilation of the

vulva, or of making its axis, before delivery of the head, correspond with the axis of the pelvis.

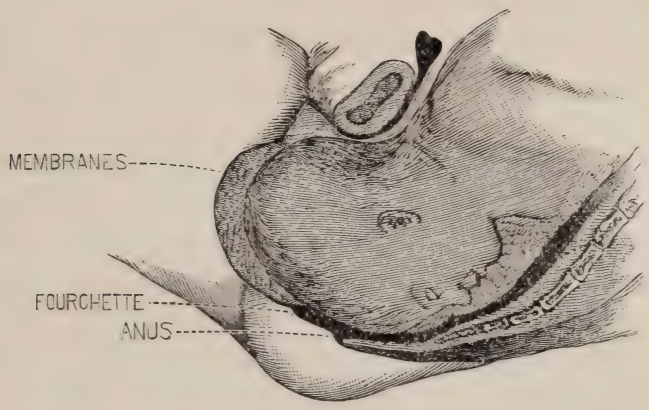


After Schroeder.

Let us glance, for a moment, at the mechanism of dilatation of the perineum and vulva by means of the membranes: When the pouch reaches the vulva, it becomes conoidal, and begins to protrude during pains, changing its shape according to the requirements, in much the same manner as in dilating the cervix and os; and as it protrudes more and more, the fourchette descends to within about half an inch, or less, of the anal orifice. The perineum thus, instead of being bulged and stretched to form a thin cap over the presenting part, is stretched only in the direction of its transverse diameters; the transverse muscular fibers, instead of being farther separated with each pain, as when the head is the dilator, are brought nearer together, and hence, instead of being ruptured separately and easily, can be ruptured only as a solid mass, and with proportionate difficulty.

The posterior wall of the vagina, instead of being ballooned, is but slightly stretched along its antero-posterior diameter,

and hence is not liable to that attenuation or transverse rupture which makes a sort of pouch or pocket for the child's shoulder to catch in and tear through the perineum.



There are other reasons for keeping the membranes intact: malposition of the head in the pelvis can more often be determined before rupture, and be corrected later and with greater facility. The body of the child cannot easily be grasped by irregular or tonic contraction of the uterus, as it occasionally is after rupture, when the parts of the child impinge upon the interior of the uterus—a condition of affairs which, when present in only a slight form, sometimes renders impossible the rotation of the occiput forward without disastrous twisting of the child's neck. The cord is much less liable to prolapse, and, if prolapsed, can be more easily made to slip back into the uterus.

After the membranes have once protruded through the vulva, they are, of course, liable to be ruptured with any strong pain, and if they do rupture before complete dilation, there will be a liability to some contraction of the vulva before the head can descend to take the place of

the membranes. In such instances there is, of course, some delay in the delivery after their rupture. After having ruptured them too soon in a number of instances, I now wait until the head threatens to come through with the membranes intact, and, in order to keep them so until then, I advise my strong patients not to bear down much, or else give a little chloroform with each pain. We can usually, by thus diminishing the pressure, delay rupture long enough for the head to be delivered with or between the succeeding pain or two. The uterus not having been long in direct contact with the fœtus, the least possible injury will occur to each; the vagina will have suffered neither from dragging down nor friction, nor will the hemorrhoidal circulation be long interfered with. But above all, the perineum will have been taken care of, and Goodell's riddle of the sphinx be solved.

Whenever the membranes rupture before their office of dilating the vagina or vulva is completed, a strong or covered rubber-bag may be introduced and then inflated with water or air, until it fills the lower unoccupied part of the vagina, so as to be made to dilate the vulva, during pains, somewhat after the manner of the membranes themselves. When a rubber-bag is not at hand, the vulva can be partly dilated by two or three fingers placed in the vagina and pressed backwards gently, but firmly, with each pain, and the capping of the head by a membranous perineum, wherein lies the chief danger to its integrity, be prevented.

3100 Forest Ave.

EDITORIAL.

It is a matter of regret that it becomes necessary to announce that Dr. James Nevins Hyde, the senior editor of the JOURNAL AND EXAMINER, has found that the numerous other demands upon his time have compelled him to relinquish his editorial work. This regret will be shared by the readers of the JOURNAL AND EXAMINER, who, for so many years have been favored with his editorials. It is, however, gratifying to be enabled to assure our readers that, from time to time, they will still be favored with an article from his pen, one of which forms the leading article of this month's issue.

WASHINGTON L. ATLEE AND THE REVIVAL OF OVARIOTOMY.

Sir Spencer Wells, Bart., has recently delivered a lecture, before the Midland Medical Society, on "The Revival of Ovariotomy and its Influence on Modern Surgery." While admitting that Ephraim McDowell, of Danville, Ky., was the first ovariotomist, Sir Spencer Wells claims the honor of naturalizing the operation.

Dr. Thomas Addis Emmet acknowledges the service of the great English surgeon as paramount to all others "in popularizing the operation and making its details so familiar."

An editorial appeared in the columns of the *Medical Record*, of New York, February 21st, 1885, which alludes to the revival of ovariotomy, in the following terms:

"The theory of the operation seemed rational in conception, but disproved by results attained. There was no one to champion the cause, eliminate its errors, and bring victory out of seeming defeat. In 1858, Sir Spencer Wells set out on his mission of rendering ovariotomy a justifiable surgical expedient."

These anachronistic improprieties may be explained by the notable omission of the study of the history of medicine in the *curricula* of both English and American medical schools. While it is difficult to overlook the insularity of an Englishman, it is impossible to pardon the ignorance of an American.

Chrysmar (1819), Nathan Smith (1821), Lizars (1823), Granville (1827), Ritter (1832), Quittenbaum (1834), Stilling (1841), Charles Clay (1842), contributed to our knowledge of conditions, indications, and operative *technique*.

Dr. Washington L. Atlee, of Pennsylvania, however, deserves the credit of enfranchising the operation. The period of Dr. Atlee's activity dates from 1843. The publication, in 1855, of Dr. Atlee's first thirty cases marks an era in the history of the operation. The prize essay of Dr. G. H. Lyman, of Boston, published in the following year, materially strengthened Dr. Atlee's position.

Operators and writers multiplied with astonishing rapidity, after the publication of Dr. Atlee's first thirty cases. It is foreign to our purpose to trace the history of ovariotomy until 1858.

The Germans, with characteristic justness, ascribe to Atlee the position, which Sir Spencer Wells has arrogated.

Professor Carl Braun, one of the most critical and accurate bibliographers of the day, writes in his *Lehrbuch der gesammten Gynækologie, Wien, 1881*, p. 936: "W. Atlee performed it (ovariotomy) two hundred and forty-six times, from 1843 to 1871, and by this has contributed the most to its enfranchisement."

ABSORPTION OF SALICYLIC ACID.

From time to time, very interesting and important facts are developed in the Biological Laboratory of the University of Pennsylvania. Dr. N. A. Randolph and Mr. Samuel G. Dixon have recently published a suggestive note on the absorption of salicylic acid (*The Medical News*, Feb. 14th, 1885.)

Salicylic acid, rubbed up in a thin paste with olive oil, was applied to the uninjured skin in seven cases of rheumatism. In each of the seven cases, the presence of the drug in the urine was demonstrated by the ferric chloride test. Existing rheumatic attacks were relieved in six cases; a negative result was obtained in one case.

The constitutional impress of the drug was obtained by its application to the axilla, side of the chest, and the affected joint. From the happy result of the application to the inflamed joint, Dr. Randolph and Mr. Dixon are inclined to believe that the remedy has a specific local effect.

The drug proved an irritant to the skin in but one case.

The advantages of the exhibition of salicylic acid by the skin are numerous and important. The irritant effect of the remedy upon the gastric mucous membrane, and its disagreeable taste, frequently contraindicate administration *per os*.

The subject is worthy of thorough investigation. Quinine has been exhibited by inunction for a long period of time. Absorption, however, is neither so rapid, nor so certain, moreover, the local action of the drug on the skin is of a highly irritant character.

PATHOLOGISTS' FEES.

"Gentlemen! No money can be made out of dead men," said a distinguished pathological anatomist, a few months ago.

The remark was made to ten or twelve *internes* of one of our large metropolitan hospitals, who were collected around a dissecting table, noting with keenest interest, the deft strokes of the knife in the master's hand, and listening to his lucid interpretations of morbid processes. It was suggested by a word from one of the gentlemen, who expressed his intention of qualifying himself for similar activity.

The *animus* of the remark is obvious. The pathologist had learned, by bitter experience, the essential difference between liberal and professional education. He was anxious to deflect the attention of hot-blooded, impulsive youth,—inclined to reject the proposition that man "liveth by bread alone,"—from the contemplation of pure science, to what the Germans aptly term the *Brodwissenschaften*, which may be translated, *The Bread and Butter Sciences.*

In other words, the pathologist, in the selection of his figure, wished to impress upon the minds of his auditors an idea, old as the history of philosophy, admirably expressed by Sir Wm. Hamilton.

"It is manifest, indeed, that man, in so far as he is a mean for the glory of God, must be an end unto himself; for it is only in the accomplishment of his own perfection, that, as a creature, he can manifest the glory of his Creator. Though, therefore, man, by relation to God, be but a mean, for that very reason, in relation to all else is he an end."

But it is evident that under the condition of society, individual men are, for the most part, to a greater or less degree, actually diverted from the end of existence.

"To live, the individual must have the means of living; and these means (unless he already possess them) he must procure,—he must purchase. But purchase with what?

"With his services, *i. e.*—he must reduce himself to an instrument,—an instrument of utility to others; and the services of

this instrument he must barter for those means of subsistence of which he is in want. In other words, he must exercise some trade, calling, or profession."

In America, pathology is as separate and distinct from *The Bread and Butter Sciences* as metaphysics.

Is this so? Up to the present time, this has undoubtedly been the case. We hope an era of better things is about to dawn.

The Chicago Gynecological Society, at its regular meeting, Dec. 19th, 1884, established an important precedent.

When Professor Byford's two specimens of "Mural Pregnancy" were referred to a pathological anatomist for examination, a motion, relative to *adequate* pecuniary compensation, was carried.

The recent occurrence of four destructive fires in insane hospitals in Indiana, Pennsylvania and Illinois, and the merely cursory interest manifested by the public press, indicates the necessity for organized effort to secure public attention to the interests of the insane. The Coroner's investigation of the origin of the fire at Kankakee found that the Medical Superintendent and the employès did all in their power to save life and property, but were hampered in their efforts by reason of lack of suitable alarm, fire escapes, and appliances for extinguishing fire. The medical superintendents in all the hospitals in which fire occurred were not only acquitted of negligence but commended for their zealous efforts to remove the inmates. In each case the fire was found to have originated in causes which the utmost vigilance has always failed to fully control. Defective construction of buildings, faulty heating apparatus and incendiarism are the common causes of such disasters and will con-

tinue to be despite the precautions prompted by personal interest or devotion to public duty. For obvious reasons, hospitals should be fire proof. The great loss of life in the Kankakee fire, despite the highly creditable efforts of Dr. Dewey and his assistants, and the difficulty and danger attending the rescue of incarcerated inmates of the Philadelphia Almshouse, ought to convince the public of this fact.

The rapid increase of insanity in this country is a fact so tardily recognized by our legislators, that provision for the safety and intelligent treatment of this unfortunate class rarely meets the requirements of common benevolence, and is yet more rarely adequate to the reasonable demands of professional management. The proportion of the insane to the population of California in 1860 was 1 to 883, in 1880, 1 to 383. In an article in this journal, November, 1883, Dr. Clevinger estimated the proportion of insane to the population of Chicago as 1 to 383. In our actively moving and rapidly increasing population, with a steady influx of European paupers, the causes will probably long continue to maintain if not to increase these proportions.

If the care of the insane has been assumed as a public duty, it is a crime to neglect the details essential to its performance. The Kankakee horror emphasizes this fact and suggests a searching inquiry into the general management of insane hospitals.

Such an inquiry would disclose the fact that the neglect to provide fire apparatus and a water supply for a building crowded with helpless inmates, is a fair illustration of legislative negligence. It would show that political influence, the collusions of privileged contractors, and the biennial junketings of legislative committees are not inspired by a benevolent interest in the welfare of the wards of the State. It would

show that large sums are appropriated for architectural display, which, prudently expended, would afford security against fire. It would show that asylums are overcrowded, medical superintendents are overworked and the efficiency of their efforts abridged by factious opposition and political favoritism; that curable cases of mental disease are frequently neglected or placed under the care of unqualified physicians in charge of almshouses. A searching investigation would benefit the insane, the welfare of general society and the interests of medical science; it would develop an active and enlightened public interest that would inspire philanthropic effort and stimulate scientific progress. The medical profession should unite to promote this interest; the duty has grown with our knowledge of mental derangements and the essential for successful treatment, it has grown with a class of persistent and enthusiastic specialists who have labored under disadvantages which stupid opposition has unnecessarily increased, who have accomplished much for society and shared but few of its plaudits or substantial rewards. We are happy to observe increasing interests in the profession in this direction. The National Association for the Protection of the Insane is rapidly enlisting an influential membership who are urging clinical psychiatry in our medical colleges. Medical journals are insisting upon authoritative professional control of insane hospitals. The laity are beginning to realize the fact that insanity is a manifestation of physical disease in some degree amenable to medical treatment, that hospitals are provided, not merely for the custody of the insane to insure the safety of society, but chiefly for the cure and amelioration of disease. The correlative fact will soon be admitted, that the medical superintendent should be invested with the power to summarily discharge insubordinate employès, suspend assistants, in short, with the control of every

detail of management which can in any manner influence the welfare of his irresponsible patients. The tenure of office should depend only upon the skill and fidelity of service. Under such conditions, if uniformly adopted, it would be possible to compare results, and fix the responsibility for failures; a sense of security would promote a degree of efficiency which can never exist while official positions in insane hospitals are the footballs of political acrobats.

LOCAL NEWS.

HOME FOR INCURABLES IN CHICAGO.

The will of the late Clarissa C. Peck (widow of Philander Peck), who died Dec. 22, 1884, was admitted to probate on the 7th inst. The Peck estate is a very wealthy one, and Mrs. Peck's share amounts to nearly $1,000,000. The chief bequest of the will is that of clause 34, which provides for a home for incurables in this city. The bequest of all the property of the testatrix, not otherwise bequeathed, is to this noble purpose. The exact amount of the bequest is not definitely known, but it will exceed $600,000. The sum of money to be expended in the erection of suitable buildings, in furnishing the same, and in fitting up the grounds, is limited to $125,000. The site of the home will be in the city of Chicago, or township of Hyde Park, Cook county. A corporate organization is directed to be founded under the statutes of the State of Illinois within two years after the death of the testatrix. Among the trustees and corporators of the corporation occurs the name of Charles Gilman Smith, M. D.

The testatrix alludes to the scope of the institution and the functions of the trustees in the following terms: "While I wish said institution to be open to all incurables without distinction up to the limits of its means and capacity, yet I direct that its Board of Trustees shall have full power to exercise their

discretion in regard to the admission of patients, and also to the terms and conditions under which patients shall share in the benefits of said institution, and that said Board of Trustees shall have full and unrestricted power and control in all respects, subject only to the limitation that they shall endeavor to carry out the general policy herein indicated, and accomplish the greatest good possible for poor incurables with the means placed at their disposal."

The Illinois State Board of Health will hold its next meeting at the Grand Pacific Hotel in Chicago, on Thursday, April 16th prox. This is the meeting at which the annual examination of candidates for certificates is held, and such candidates are notified that the examination will cover the subject of preliminary education.

NEWS ITEMS.

General regret was felt by the medical profession on the announcement that the publication of the *Index Medicus* had been discontinued by the publishing house of its former publisher, F. Leypoldt, of New York.

Authoritative announcement is now made by its editors, Dr. John S. Billings and Dr. Robert Fletcher, that Mr. George S. Davis, of Detroit, Michigan, has undertaken to continue its publication on the same general plan as the preceding numbers.

THE NEW ST. LUKE'S HOSPITAL BUILDING.—Since the issue of the last number of the JOURNAL AND EXAMINER the new building for St. Luke's Hospital has been so far advanced that the patients have been transferred to it, and the hospital is in good working order.

The structure is not yet complete. The old buildings stand upon the ground which is to be used for the pavilion intended for the surgical wards and the ward designed for children. It is contemplated to remove the old buildings at an early date, and to proceed to erect the new pavilion, when the structure will present the form of a hollow square. The executive portion of the building extends east and west, whilst the pavilions are arranged to run north and south, so as to secure the greatest amount of exposure to sun-light in the wards and private rooms.

The heating and ventilation of the buildings are on the same plan as that of the John Hopkins Hospital. To avoid too high temperature from the steam heating, more radiating surface,

—in the direct radiation,—has been introduced, which, with the careful ventilation, gives an agreeable temperature in the building.

The accident ward and the dispensary are located on the ground floor, whilst the amphitheater, with the anæsthetizing and the recovery rooms, are at the top of the building, accessible by elevator. The amphitheater is remote from the wards and is placed where good light can be had.

In its construction and its internal arrangements, the hospital is fully abreast of the times.

The autopsy amphitheater—the wards for contagious diseases and the laundry are located in a detached building.

The authorities of the hospital have anticipated its continued growth and have secured additional ground adjoining, upon which an extension of the present building may be erected, when needed, which will be in keeping with the plan of the present structure.

The Illinois State Medical Society will meet this year in Springfield, on the third Tuesday of May, (19th).

The Executive Committee of the Sanitary Council of the Mississippi valley have, by direction of the Council, addressed a memorial to the President of the United States asking that the National Board of Health be convened and authorized to proceed to make such provision as may seem best, to secure the country against the threatened invasion of the cholera.

The death of William Braithwaite, M. D., the founder of the *Retrospect of Medicine*, occurred at his home in Leeds, England, on the 31st of January.

His son, Dr. James Braithwaite, will continue to publish the *Retrospect*, which was first begun in 1840.

Commencement of the College of Physicians and Surgeons.—The third Annual Commencement of the Chicago College of Physicians and Surgeons was held at the Grand Opera House on Tuesday afternoon, March 10th.

The President, Professor A. Reeves Jackson, M. D., conferred the degree of Doctor of Medicine upon sixty candidates.

Professor R. L. Rea has resigned the Chair of the Principles and Practice of Surgery. He will lecture, hereafter, upon the subject of Military Surgery.

Book Reviews.

A Manual of Diseases of the Throat and Nose, including the Pharynx, Larynx, Trachea, Œsophagus, Nose and Naso-Pharynx. By Morell Mackenzie, M. D., London, Consulting Physician to the Hospital for Diseases of the Throat; etc., etc.

Volume II. *Diseases of the Œsophagus, Nose and Naso-Pharynx.* Wood's Library, August, 1884. Octavo, pp. VI., 400. New York: William Wood & Company. 1884. Chicago: W. T. Keener.

The name of Morell Mackenzie, of London, we associate intuitively, and deservedly so, with those of Turck, Czermack, Stoerk, and Schrötter, his German *confrères* and collaborators in the early development of the sciences of laryngology and rhinology. These special departments of medicine owe their very existence to the invention of various mechanical contrivances; instruments, first for precise diagnoses, then for treatment; and in perusing the pages of this work, one cannot but admire the keenness of conception and wealth of device, dis-

played by the author, in the many ingenious, and withal simple, inventions necessary to meet the indications.

Volume II is systematically arranged, the œsophagus, nose, and naso-pharynx, embracing sections IV., V. and VI. Each section commences with a lucid *résumé* of the anatomy of the respective organs, the clearness of which might have been still further enhanced by the insertion of a few good wood-cuts. This is followed by copiously illustrated explanations of the instruments employed, while at the head of each chapter is placed a comprehensive definition of the disease forming its subject, its synonyms, and equivalents. The history and complete bibliography of each individual affection will prove of the utmost value to future writers. They have been rendered possible only by residence of the author in the metropolis, with the most extensive medical libraries and a corps of able young assistants always at his command.

In the article upon Examination of the gullet, it is made perfectly evident that the art of auscultation of the œsophagus should no longer be regarded as an impractical refinement. Normal deglutition produces a certain sound, when of liquids and in the pharyngeal region, best described by the whispered word "*glouglou*," whilst lower down a variation, the true "œsophageal sound" becomes audible. Various diseases occasion modifications of these sounds, strongly suggestive to the familiarized ear. It is also clear from the author's experiments, that the lumen of the distended œsophagus is not circular but oval, flattened antero-posteriorly, and that œsophageal bougies should be made similar in shape, not round, but flattened antero-posteriorly, Fig. 2 representing a proper scale.

For actual visual examination of the interior of the œsophagus, Mackenzie has introduced an œsophagoscope, so simple in construction as to be available in most cases and by

any physician accustomed to the use of a head reflector and to the introduction of œsophageal instruments. He has utilized it in a number of instances. On one occasion he was enabled to diagnosticate various veins within the œsophagus. His diagnosis was verified by a subsequent hæmorrhage, thus definitely located. In another patient he diagnosticated and removed a small lamella of bone—a foreign body, which was not demonstrable upon sounding with the bougie, but which was causing urgent symptoms of dysphagia.

It is to be regretted that, in this connection, the apparatus of Mikulicz designed to illuminate the interior of the œsophagus and the cardiac end of the stomach by means of the electric light, should receive but passing notice. It should have been more fully elaborated. During the winter of '81 and '82, this instrument was successfully employed by Mikulicz in Billroth's wards of the Vienna General Hospital, and especially do we recall a case in which Billroth was enabled to see a carcinoma at the cardiac end of the stomach. The apparatus is somewhat complicated, consisting, however, chiefly of a tube which carries an electric light at its distal end along the œsophagus into the stomach.

All are familiar with acute traumatic œsophagitis, resulting from irritants and caustics in process of deglutition. Perhaps the most novel of causes, which are mentioned, is the sting of insects, accidentally swallowed, which occasion, not uncommonly, a very severe form of the disease.

Acute *idiopathic* œsophagitis, on the other hand, has been so rarely recognized that it has not been mentioned in most treatises. The author's experience embraces cases of this disease, occasioned by "taking cold," extension of inflammation downward, from the pharynx, some epidemics of angina having a remarkable tendency in this direction; extension up-

wards of a gastritis or gastro-enteritis, the rheumatic diæthesis, and the abuse of alcohol.

Cicatricial stricture of the gullet and the various methods of treating it: gentle dilatation, forcible dilatation, internal œsophagotomy, "œsophagostomy," and "gastrostomy," are all of them comprehensively discussed. When gentle dilatation has failed, the temptation is towards internal œsophagotomy,—to cut through the stricture from within. For this purpose Mackenzie has devised an œsophagotome, not at all complicated in construction, and well adapted to its purpose. The mortality reports of this operation, however, are not encouraging, and unless one would court the immediate death of his patients he must select carefully his cases. It is obvious that where the greater portion of the tube is involved in tortuous stricture, or where the obstructing ridges are vertical in direction, it is worse than useless to go slashing around in such a locality.

Quite amusing, as well as instructive, is the relation shown to exist between spasm of the œsophagus and various psychical influences. A gentleman returned to France, after an absence of twenty years, learned that his brother's death had resulted from the bite of a dog, by which he also had been bitten. He was seized with œsophageal spasm, which ultimately proved fatal. Another patient was seized with the characteristic symptom after a dog had *tried* to bite him.

In the anatomical preface to the section upon diseases of the nose, a *fourth* turbinated body is described, present, according to Zuckerkandl, in one-third of all cases, and, therefore, to be borne in mind; and among the instruments for posterior rhinoscopy we note with pleasure the uvula holder of Voltolini figured, and the inventor's method of using it explained. We have found this to be the only instrument of the slightest value in accomplishing its purpose. It will enable one at times to

obtain a good rhinoscopic image otherwise unattainable. The diagnosis between nasal polypus and hypertrophy of the turbinated bodies is specially emphasized, and with good reason. Differentiation between these two affections has not, hitherto, received attention in surgical works. Too frequently have portions of the turbinated bones been extracted by forceps under the impression that the nasal obstruction was due to polypus. "Polypi, though often bilateral, are seldom so symmetrical as is the thickening of the turbinated bodies, and whilst the color of the former is pale yellow or pink, that of the hypertrophied turbinated bodies is either bright red or dark red. Again, though the thickened mucous membrane pits a little under the probe, the entire body does not move, as in the case with polypus."

Tuberculosis of the nasal mucous membrane hitherto, apparently, a rare disease, the author believes destined to become much more common in the immediate future, because it will be looked for and will be recognized and reported. It may be seen either in the form of tumors varying from the size of a millet seed to that of a bantam's egg, or there may be but slight thickening and ulceration of the mucous membrane. Both forms show a preference for the septum, and occur usually in conjunction with tuberculosis elsewhere.

The general style of Wood's Library is well known; the print is bad, but the price is low. Other editions are published, both English and American. W. E. CASSELBERRY.

HENK'S ATLAS OF SURGICAL ANATOMY. *A Series of Plates Illustrating the Application of Anatomy to Medicine and Surgery. Translated by* W. A. ROTHAKER, M. D., *Lecturer on Pathological Anatomy, Miami Medical College.* A. E. WILDE & Co., *Cincinnati.*

This work will answer a good purpose for reference in refreshing the memory as to the relations of the different parts of the body. In the main, the illustrations are accurate and reliable, but we miss the coloring which makes Maclise's similar publication unsurpassed by any like work which has come under our inspection. It has some of the faults which are unavoidable, perhaps, by the attempt of the artist to make the different anatomical points show too plainly. The proper arrangement of the formation of the brachial plexus of nerves is not shown in any plate in the book.

Plate I shows the uvula as projecting below and beyond the upper edge of the epeglottis—a condition of things which would be far from pleasant to the owner of any such relation and one quite impossible.

Plate XIV, page 2. A section purporting to give the relations of the common carotid artery and internal jugular vein. These vessels are too far away from each other. Their distance increased in proportion, to bring it to the natural size, would give one a very erroneous idea of their relation, and it followed would very likely lead to the accident of wounding the vein. In the body they hug each other quite closely.

Plate XVIII is misleading in showing the relations existing between the common carotid arteries and jugular veins on the two sides of the neck. The rule seems to have been forgotten

that the left veins approach their corresponding arteries, while the right veins diverge from them.

The most serious fault to our liking is the fact, that the short descriptive texts of the plates are all printed together in the front part of the book instead of each text going with its corresponding plate as could, it seems, easily have been arranged, thus saving much trouble of reference.

Plate XLI and LXI are both defective in that they fail to show the commencement or any portion of the internal iliac artery. It is not possible to look into the pelvis from any point which will display the arteries as here given, or fail to show some portion of the internal iliac. There is an appreciable difference between a ligation of the primitive iliac and the external iliac—through this plate no distinction could be made.

CORRESPONDENCE.

My Dear Editor.—Although my last letter was from Paris, I believe I had not then been here long enough to give you much of interest; so, before leaving, I give you a few short notes of my impressions of this place, from a medical standpoint.

In Paris I find every one studies a specialty, but yet no one calls himself a specialist; for be it remembered, to be known as a specialist, here, is a mortal professional sin.

This at first seems paradoxical, it is true, but I will explain. The system of hospital service is such, that the attending physician serves from two to three years in a department, and then takes up another, and so on till he completes the round of all. Applications for admission to all the hospitals must come through the "Bureau Central," where they are assigned to the particular hospital, or department thereof appropriate to their several cases. This offers great advantages to the physician who desires to pursue a certain line of clinical investigation; for he has only to notify the Bureau Central of his intention, and all the cases in that particular line are sent to his wards. But, when his two or three years are up, he proceeds to some other department of clinical work, and thus I found Charcot, not as expected (after publishing a work on Renal Pathology) still investigating renal diseases, but now in charge of the Nervous Department of the Salpêtrière, devoting his time chiefly to the hysterical and the epileptic. I had

the pleasure of accompanying him through his wards, which are very extensive and exceedingly well conducted.

The Salpêtrière Hospital it will be remembered, is exclusively for women, and contains the vast number of 4,000 beds, and at present contains 3,000 patients under treatment. It is about 160 years old, built in terraces, not unlike private residences, scattered over, I should say, thirty acres of ground, intermingled with beautiful gardens. I went over the whole of it, even the kitchen, and the butchers' department, and I cannot speak too highly of the order, cleanliness and efficiency in its conduct. And this is the same in all the hospitals in Paris which I visited. The new Hotel Dieu Hospital is a very superior institution, which it should be, as it cost 45,000,000 francs, ($9,000,000). It contains between 600 and 700 beds. The main building encloses an open court, with very fine architectural effect, and from the outside project several wings. Its location just on the banks of the Seine, next to Notre Dame Cathedral, shows its solid architectural proportions from the outside, to very good advantage.

The hospitals in Paris are made very attractive to patients, and large numbers of paying patients go there by preference, and thus the accommodations have kept increasing, till now, I am credibly informed that, combined, they contain one bed to every seventeen of the whole population of the city. This seems scarcely credible when we remember that in London the ratio is only one in about two hundred.

With the old Ecole de Medicine, I was disappointed; in size and equipment, it cannot approach the Edinburgh University. The class-rooms are small and dingy, the museum of anatomy small, but the library is fairly complete. The Pathological Museum of Dupuystren, in an outside building, is well

arranged, and contains considerable material, but is in no way to be compared with the Hunterian Museum in London.

The new buildings, however, in course of erection for the accommodation of the faculty, when completed, will amply amend, in point of room, for any deficiency existing in the old school. They are very extensive, covering two blocks. The main building, fronting on the Boulevard St. Germain, is a magnificent and imposing piece of architecture; built of white stone, with massive carved figures above either side of the main door-way, which is the only ornamentation attempted, save the upper third of the front, consisting of a system of long porch-ways, after the Doric system, which gives a fine effect.

This building surrounds the old Ecole de Medicine, except the front of the latter, which faces to the rear, directly behind the Boulevard St. Germain. The next block of buildings is more plain and irregular, though built of the same white stone, and cover the block to the rear of the main building and face the old Ecole. The practical classes in anatomy already occupy these, and as I visited them I noted quite a number of female students dissecting in common with the male students.

A few days since an ambulance committee was formed for the purpose of insuring immediate attention for people meeting with accidents or sudden illness in the streets. This grew out of the fact that recently a case of injury was delayed some hours in reaching the proper hospital for treatment, which resulted in the death of the patient before he received proper medical attention. I understand the committee intend to adopt the New York ambulance system.

In France, all public medical service is rigidly exclusive, no foreign medical man is allowed to hold any position on a hospital staff, or to occupy a chair in any teaching institution.

Our own distinguished Brown-Sequard refused for a number of years to comply with the requirements, and become naturalized, even when offered a chair in the "Facultie," and it was only after France became a republic that his scruples were sufficiently overcome to permit him to qualify and accept the proffered honor.

In concluding this communication, I would express the opinion that it would be wise for the profession in America to be thoroughly alive to dangers of cholera next season, and to use all measures of precaution against its importation. It is my belief that it is almost certain to break out, at least in Paris, on the advent of warm weather, for these reasons. Cholera exists now in Paris, constantly; it is true only a few cases, some four to six or eight per week, I note by the official reports, as an average since I came; but during the first two and a half weeks of November it reached about 80, and was only apparently checked by cold weather.

The weather has been very cold here during my stay; in fact it has snowed nearly every alternate day, and if such weather will not completely subdue the disease (which it has not), the chances are largely in favor of an outbreak early in the summer. Of course on the extent of the outbreak, or the range of its extension, it would be superfluous for me to express an opinion. I only state what I find to be the facts, and local conditions that exist in Paris, and leave your readers to draw their own deductions. CHAS. W. PURDY.

Paris, Jan. 17th, 1885.

SPRAY IN OVARIOTOMY.

To the editors of the CHICAGO MEDICAL JOURNAL AND EXAMINER—*Gentlemen:* The following is an extract from a recent

work by Dr. Emmet (Emmet's Principles and Practice of Gynecology, p. 715):

"In this country I do not know of any prominent operator who now employs the carbolic acid spray."

This statement implies that the writer is not persuaded of the value of spray in ovariotomy. My own experience has led me to an opposite opinion. Indeed, I should not like to do a laparotomy for any purpose without antiseptic spray. I have been led to this conclusion by the results of one hundred and eighty-three cases of removal of cystic ovaries, of which I have lost only twenty-one; but more especially by the result of the last one hundred of these cases, only ten of which were fatal, while thirty-eight were consecutively successful. I feel that to omit the antiseptic spray would be to deprive the patient of one of the ready and efficient elements of success. As I can hardly hope for much better results than these I have cited and being quite content to let well alone, I shall hesitate before disturbing my present plan of operation by giving up a detail to which I attach much importance.

Very respectfully your obdt. servant,

JOHN HOMANS.

161 Beacon St., Boston.

February 17, 1885.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY.

Meeting of December 15, 1884.—The President, Dr. D. A. K. Steele, in the chair; Dr. Liston H. Montgomery, Secretary.

Actinomycosis in the Human Subject.—Dr. John B. Murphy read a paper on this subject, in which he first gave an interesting summary of the literature of the disease, with references to twenty-eight cases of its occurrence in the human subject, and then reported two additional cases.

Case I.—June 28, 1884, he was called to see Mary M., twenty-eight years old, who stated that two weeks before, she had begun to suffer with severe toothache in the left side of the lower jaw. Shortly afterwards a swelling appeared in the throat, with great pain in swallowing and inability to open the mouth. The pain and swelling disappeared after her face and neck had been poulticed for several days. A few days afterward she was again attacked with toothache, together with an indescribable ringing in her ears. A swelling appeared in her mouth, on the outer side of the jaw, the pain grew more severe, and the swelling continued to enlarge up to the time that the speaker was called. On examination, he found a swelling behind the angle of the jaw, on the left side. The patient could not open her mouth more than three-quarters of an inch, and had eaten nothing for two days. The left tonsil was much enlarged, and filled most of the pharynx; a pale-yellow spot marked the spot where an abscess was about to break. A

large quantity of pus was set free with a lancet. She made a rapid recovery, and was about in a few days. She appeared to remain comparatively well until the 8th of July, but did not regain her strength, and occasionally suffered with toothache. A small swelling now appeared on the left side of the neck, below the jaw, accompanied by some pain and inflammation, and a few days afterward she again presented herself for treatment. The lump was about as large as a walnut, and the surrounding tissue was considerably indurated. Several carious teeth were noticed in the mouth. The "bunch" fluctuated and seemed to contain considerable pus, but only a small quantity was discharged (when it was punctured) not exceeding a few drops, and having a creamy appearance. A drainage-tube was inserted and an antiseptic dressing applied. On her return, two days later, the drainage-tube was removed, and about twenty drops of thick, creamy-looking discharge oozed from the opening. It contained peculiar sulphur-colored granules, which were recognized with the aid of the microscope as actinomyces. A number of specimens were then prepared and shown to Dr. Fenger, Dr. Bridge, and Dr. Kerber, who agreed with the speaker as to their nature. The patient was under observation for ten days longer, and each day new specimens were procured. As the swelling and induration continued to increase, and as the patient was sinking rapidly, she was advised to enter the City Hospital, and Dr. W. T. Belfield was asked to examine the case. He reported that the pus contained actinomyces.

After a few days of preparatory treatment, the growth was removed, with the assistance of Dr. Fenger, Dr. Belfield, and Dr. W. P. Verity. An incision was made, extending from the ear to the clavicle, parallel with the sterno-cleido-mastoid muscle. A mass of succulent tissue was observed, inter-

spersed with pus and gold-colored granules, penetrating the surrounding tissue. It was all removed with a knife and a sharp spoon. In some places this tissue penetrated from half to three-quarters of an inch. A carious tooth was removed, and a probe was passed down from the alveolus into the wound. A small portion of the angle of the jaw was chiseled away, and the alveolus and the canal were thoroughly scraped. After the wound had been cleansed, a tampon of iodoform gauze was inserted into the alveolus, drainage-tubes were placed in the wound, and the edges were approximated with silk sutures. Primary union took place, and the patient made a rapid recovery. She gained over twenty-six pounds in weight within five weeks, and was now in good health.

Case II.—Thomas C., eighteen years old, consulted Dr. Murphy September 3, 1884, and stated that, on the previous Christmas, when he was living in Ireland, he had begun to suffer with severe toothache in the lower jaw, on the right side, which lasted about two months. Then a swelling appeared at the angle of the jaw, and the pain subsided. Since that time the swelling had enlarged somewhat, and he had had more or less pain. On examination, Dr. Murphy found a carious tooth, and the swelling showed well-marked fluctuation. It was as large as a pigeon's egg and situated below the jaw. There was a little induration of the surrounding parts. It was punctured, and about ten drops of thick, creamy pus of a consistence and color that attracted his attention, escaped, so that he made a microscopical examination of it and found that it contained radiating threads. Not being satisfied with this examination, he asked the patient to call again, which he did in two days. Pressure on the swelling then caused a small amount of pus to exude, and this was found to contain perfect actinomycetes. Specimens were shown to Dr. Fenger and Dr. Bridge, who

recognized the parasite. The sinus was scraped out, and in ten days the parts were completely healed. The patient was seen four weeks later, and there was no evidence of the recurrence of the disease. About six weeks later the man again consulted the speaker in regard to a swelling in the same locality, somewhat larger than the first. It was opened, and a drainage-tube was inserted. The same characteristic pus was found, and it was examined by Dr. Fenger, Dr. Bridge, Dr. Belfield and Dr. Kerber, all of whom recognized actinomyces. The speaker had not seen the man since, but had learned that the opening had healed.

It would be seen from the summary Dr. Murphy, had given in his preliminary remarks, that in only one of the cases that had ended in recovery, had the disease begun in the lower jaw. Some of them appeared as diffuse phlegmons, some as chronic burrowing abscesses, and others as chronic suppuration of lymphatic glands, and, on opening the swellings, they were found to consist mostly of a mass of granulations, with but little pus, although Rosenbach had observed a moderate amount of matter in a few of his cases. Of the fatal cases, but two had had their origin in the lower jaw, the others originating in the internal organs, such as the lungs, the intestines, the oviducts, etc., and presenting no other symptoms than those of chronic suppurative inflammation, with little pain and no fever, but great emaciation. At the autopsies, the pus showed the characteristic granules, and the affected organs presented a honeycombed appearance, the spaces containing projecting masses of pale-yellow granulations and but very little pus.

The disease was very chronic in its course, its shortest duration, in the fatal cases, having been seven months, and the longest twenty months. The patients usually died of exhaus-

tion or pyæmia. Various metastases might appear, either to the heart, the lungs, or the intestines. Considering the great space invaded, the comparative freedom from pain and fever was specially noteworthy. In the matter of diagnosis, it was important to notice that the disease usually had its origin in the lower jaw, whence it extended to the neck, the vertebræ, and the thoracic cavity; that it might have its origin in one of the internal organs; that, although the fistulæ extended deep and in all directions, their boundary was very sharp and the surrounding tissue but little disturbed, this being characteristic of the granulations; and, above all, that the only pathognomonic sign was the sulphur-colored granule, which, under the microscope, presented characteristic radiating threads with club-shaped ends.

As to the prognosis, the external forms of the disease showed seventy per cent. of recoveries, while the internal forms showed only eighteen per cent. The average mortality was sixty per cent. The treatment would depend upon the situation of the disease. When it was local, it was sufficient to open the mass and scrape and drain the cavity, or merely open it and wash it out with an antiseptic solution, as had been done by Rosenbach in his five successful cases. If the deposit was of any great extent, its radical removal was necessary. When the disease invaded the internal organs, we were completely at its mercy, and could only treat the symptoms as they arose.

Discussion.—Dr. Christian Fenger opened the discussion, during the progress of which, a number of microscopic specimens showing the actinomycetes were exhibited. Dr. Fenger had seen the two patients, whose histories had been related, but could add nothing to what had been said. Rosenbach's treatment might answer in slight cases, but the course

of the disease was chronic, and it was often impossible to get at the deposit, even when its extension from the mouth was in the direction of the muscles of the neck, and especially was this the case when the swelling first formed at the angle of the jaw and the parasite got into the veins, resulting in metastases to the lungs or heart (and not on the outside of those organs). The fungi were too large to pass through the capillaries of the lungs, so that in case of such metastases, the patient was lost. If they got into the bronchi, or into the anterior or posterior mediastinum, not much could be done by medication, and they were beyond surgical treatment; hence a fatal result would follow. He would not hesitate to perform a radical operation wherever there was a sinus.

The President congratulated the author of the paper on the fact that he had been the first in this country to discover the disease in the human subject. He had been under the impression that the death-rate was about fifty per cent.

Dr. Tilly questioned the correctness of the diagnosis in the two cases that had been related. He had heard that an attempt had been made to inoculate a calf with the matter taken from one of the patients, and that it had failed. If that was the case, the diagnosis was not proved. Then, too, he would like to be assured that the specimens shown were really taken from these patients, and not from the bovine affection. He had seen the second patient after he had passed out of Dr. Murphy's hands, and recovery had followed within a fortnight after a tooth had been extracted. Why were not the diseased teeth extracted in both cases at the outset? He had no desire to throw cold water on the enthusiasm aroused by the alleged discovery, but he did not wish to see the Society take untenable ground.

Dr. Fenger replied that there was no longer any doubt as to

the nature of the cases; there was the convincing proof of the microscope. The fungi were large, and not the contemptible micrococci. He cited a case in which the tooth was extracted at once, and yet the patient lingered for fourteen months, and died of metastases to the lungs and the vetebræ. Even if a patient seemed to have been cured, he should present himself to his physician every month for at least six months, that it might be seen if the disease showed any tendency to return.

Dr. W. T. Belfield testified to the accuracy of the diagnosis in the first case, which he himself had seen, and he had no doubt as to the correctness of Dr. Murphy's diagnosis in the second case; that gentleman knew what he was about, and had treated his patients correctly. He thought a misapprehension was being spread abroad with regard to the actinomycetes; they were not minute germs, but plants that could be seen with the naked eye. The cases reported by the writer of the paper were the first that had been observed and recorded accurately outside of Germany. Mr. Treves, of England, thought that he had recognized a case, but the microscope had disproved his diagnosis. Dr. Belfield then showed a large piece of the jaw-bone of a cow that had died of the disease. Having been permeated by the parasite, it was very soft, so that it could be cut with a knife. The cow's head had been swollen to nearly double its natural size, the enlargement being chiefly of the bone itself.

Dr. Tilley disclaimed any intention of throwing discredit on the microscope as a means of diagnosis, or of questioning Dr. Murphy's skill; but he was sorry that he had not seen the patients. The fact that the second one had recovered so quickly had given him the impression that the disease could not be so very dreadful. He would repeat that it was a pity the teeth had not been extracted early, and he thought Dr. Fenger's remarks were in favor of the view he himself took.

Dr. C. T. Parkes had seen the second patient after Dr. Lydston had extracted the tooth, but he had expressed no opinion as to the diagnosis. In all such cases the microscope ought certainly to be resorted to, in order to establish the diagnosis, but it should be remembered that an alveolar abscess might at times prove a very formidable affair.

Dr. Belfield said that, if these were not cases of actinomycosis, then scarlet fever was not scarlet fever on anybody's diagnosis. The disease spread by continuity, and perhaps might be analogous to anthrax. Anthrax was trifling if we cut it out at once, and so was actinomycosis, but, if the latter was allowed to spread to the neck, the chest, or the vertebræ, it became not only dangerous but incurable.

Dr. Murphy, replying to some of Dr. Tilley's criticisms, adds that one of the specimens from the case of the boy had been somewhat impaired by having been put into glycerine. In regard to the test by inoculation, both a calf and a horse had died within six weeks after having been inoculated with the pus. It made not a particle of difference what Dr. Tilley believed, or whether the teeth had been pulled out or not; the disease was certainly actinomycosis—the same disease, historically, clinically, and classically, as had been described by Rosenbach, and as such it had received proper surgical treatment by opening, drainage, etc. The "germs" were easy of recognition, and were herewith presented.

Dr. Tilley deprecated the introduction of any degree of animosity into the discussion, but it was still a pity, he thought, that the teeth had not been extracted in the early stage of the affection.

Dr. G. Newkirk thought that the limited number of cases reported cast some doubt upon the diagnosis, although it was true that successful inoculation upon the lower animals, to-

gether with the microscopical appearances, made it very strong. It would be a pity to extract a tooth for every swelling of the jaw, for ninety per cent. of them could be cured by simple measures.

Dr. Fenger remarked that it was an error to suppose that these cases were the first that had been reported outside of Germany, for an Italian physician had reported a case that had turned out to be pneumo-actinomycosis.

Dr. J. J. M. Angear called attention to the desirability of the members' knowing, with regard to the particular slides shown, which of them represented specimens from the cases reported, and which those that had been taken from animals.

Dr. William P. Verity corroborated Dr. Murphy's statements in regard to the fungi.

Dr. Belfield then showed a number of specimens, and compared them with the plates in Ponfick's monograph, which everybody could examine to his own satisfaction. With reference to alveolar abscesses, a fungus might be present in them, or the actinomyces might be found in them, but no one had ever looked for it, and he doubted if the pus in one case in a thousand, or one in ten thousand, was ever examined.

Dr. Parkes asked if the incipient symptoms of actinomycosis were as severe as those of alveolar abscess.

Dr. Belfield thought the actinomyces had never been found to have effected a lodgment in a healthy human being or a healthy animal, but it had been found in the mucus of the tonsils in hogs.

Meeting of Jan. 5, 1885.—The President, Dr. D. A. K. Steele, in the chair.

The Late Dr. C. W. Chaffee.—The Memorial Committee

reported a preamble and resolutions eulogistic of the late Dr. Chaffee.

Diphtheria; the Germ Theory and the Alcohol Treatment.—Dr. G. H. Chapman read a paper on this subject in which he said that there was perhaps no known disease which had been so constantly and thoroughly discussed, and with regard to which we were still so much in the dark concerning trustworthy remedies, as diphtheria. Probably he would not be going astray if he stated that every physician was ready to adopt any method of treatment which offered a reasonable promise. Was the disease local in character, or did it involve the entire system? Both theories had their advocates. Perhaps the most recent and best-founded theory was that given by Oertel, and confirmed by others, that the disease was first local and afterward developed into a general disease, and, moreover, that the infection was kept up by the local disease. The micrococci first attached themselves to the laryngeal mucous membrane, where they multiplied and produced inflammation of the adjacent tissues, and the membrane became filled with micrococci, which forced their way between the epithelial cells. The cells began to die and ulceration took place. The mouths of the lymphatics opened and the micrococci passed in. Early in the disease no micrococci were found in the blood, but, after the constitutional symptoms had become severe, masses of them would be found in the vessels, and the germ invaded the white blood corpuscles, which after a time would be found filled with micrococci. They would be found in the kidneys and in the capillaries, forcing their way between the muscular fibers of the heart and throughout the body, leading to destruction of tissue. Wood and Formad, of Philadelphia, had found that the attempt to inoculate animals with the poison derived from an ordinary case of diphtheria, as it appeared in that city,

failed to produce the disease, but, when it was taken from subjects of a malignant type of the disease, they invariably succeeded in infecting the lower animals. They also produced diphtheria with micrococci cultivated in soups, even to the fourth or fifth generation.

They further found in ordinary saliva a micrococcus which could not be distinguished from that found in the membrane from the most malignant diphtheria, except that with those they could not produce the disease; and also that the action of the poison was in direct proportion to the virulence of the of the epidemic. The former writer thought that diphtheria was produced by micrococci that were present in everybody's mouth. These were some of the conclusions of those who had spent years in the investigation of this subject, with abundance of material at their disposal.

Granting that the deductions of these investigations were correct, there must be conditions for the rapid reproduction of the germs which were not yet understood; and might it not be that they found in the degenerated or septic condition of the fluids and tissues a good field for growth and development in an active form, and still were not the primary cause of diphtheria? But, whether the disease was purely local or general in its origin, whether micrococci were or were not the primary cause of its development, the stubborn fact remained that, in nine cases out of ten, when the physician was first summoned, he found abundant evidence of systemic disturbance, varying in intensity from simple circulatory excitement to the most profound prostration, like that of septicæmia.

A severe form of this disease was manifested in South Chicago during the autumn and winter of 1881–'82. In the first six weeks of the epidemic, the writer treated seven cases, with two deaths and one protracted recovery out of three mal-

ignant cases. The treatment consisted, *externally*, in the free use of camphorated oil with turpentine, and applying to the membrane every four or six hours, with a camel's-hair brush, a mixture of a drachm of carbolic acid, three fluidrachms of liquor ferri sub-sulphatis, and half a fluidounce of glycerine. The throat was gargled with a saturated aqueous solution of chlorate of potassium. *Internally*, tincture of chloride of iron and quinine were given, in doses suitable to the age of the patient, giving to a child, eight years of age, two grains of quinine and six drops of tincture of chloride of iron every three hours. In one of the cases that seemed to be malignant, but ended in recovery, dry sulphur was used after the fourth day, blown freely into the throat and nasal cavities after cleansing the parts with chlorate of potassium solution. There had been, up to this time, in all, about twenty cases in the immediate vicinity, with twelve deaths. Other physicians had had no better success in combating the disease. At this time the writer's attention was called to the free use of alcohol in this disease, by various publications, from which it appeared that alcohol was one of the best agents for destroying the micrococci or rendering them inert; and he determined to give it a fair trial, using it diluted, with chlorate of potassium as a gargle, especially using the latter remedy before the patient took either medicine, food, or drink. Dry sulphur was also used in the throat and nasal cavities, with the internal use of whisky-sling or milk-punch, as hot and strong as could be borne, and only to be limited by the amount which could be tolerated by the patient without producing intoxication, along with other agents, such as diuretics, antifebrile remedies, etc., as each case seemed to require.

As a result of this trial, his succeeding twenty-eight cases were carried to a successful termination with one exception, and in none of them was a brush or probang used.

The alcohol in every case could be used very strong; it would almost invariably cause the membrane to shrivel up like burning leather, and within thirty-six to forty hours every trace of membrane disappeared. Tincture of veratrum viride and deodorized tincture of opium were given in some cases for fever during the congestive stage only.

During the past two years the author had relied on the liquor-ferri-subsulphatis-and-carbolic-acid mixture applied to the throat with a camel's-hair brush twice or thrice a day, or still more frequently. He pursued this plan instead of blowing in sulphur with a bellows or through a goose-quill. The sheet-anchor, however, was alcohol in every stage of the disease, and, from his experience, he was led to think we could secure much better results with it than by the harsher methods o treatment.

[Here the author gave brief accounts of a number of illustrative cases.]

As before stated, only one patient of the twenty-eight treated with alcohol, was lost; a girl eleven years of age, of nervous temperament, who, six months previously, had had a severe attack of typhoid fever, from which she had not yet fully recovered Consequently when she was attacked by diphtheria of a severe naso-pharyngeal character, it was difficult to maintain her strength, and she died on the eighteenth day, from paralysis of the heart.

In July, 1882, the writer attended three cases of croupous diphtheria. The first two do not require any special mention. The third case of this series was under the care of another physician for two days before he was called. It seemed impossible for life to be prolonged an hour. However, a teaspoonful of a mixture of a grain of calomel, five minims of tincture of aconite-root, and four ounces of water was ordered

to be given every hour. Milk-punch and whisky-sling also to be given frequently. Instructions were given that, if the child lived until evening, he should be sent for. The child lived, and the treatment was continued. Upon visiting the little patient the following morning, he was greatly surprised at seeing the child running about the room dragging a broom and in high glee. It would be seen that great relief followed in this case within twelve hours. Doubtless the calomel had had much to do toward bringing this about.

Discussion.—Dr. G. C. Paoli thought the author was too prone to follow out routine treatment in diphtheria, whereas on such form could be laid down in this disease. Why? In malignant cases the patient might live only two, three, or at most five days, and this was not the fault of the physician. However, alcohol was no new remedy in these cases. It had been used forty years, chiefly, though, in the form of wine. Alcohol might be given in these cases to destroy fungi or bacilli, on the same theory that it was given as an antidote for snake-poison. But the question arose, would alcohol save patients where there was fibrinous exudation upon the tonsils, pharynx, and other parts; where it was of an ashy-gray appearance; where the maxillary and cervical glands were involved; where there was a dusky hue of the face, with cyanotic lips, and feeble heart and pulse, fœtid breath, hyperæmia of the brain, etc.? He would hesitate, on general principles, about giving the remedy. Instead, the first thing that should be done was to use antiseptics, such as oil of eucalyptus, which would destroy the bacilli. For young children, he would use it with an atomizer, for they could not gargle. Where there was ulceration of the naso-pharyngeal space, hæmorrhage might set in, and nothing would check it. Internally we should give tincture of iodine, in

water, for a child five years of age, four drops every hour; and apply any of the well-known antiseptics with a probe or brush to the throat. It was of no use to give them quinine and tincture of iron, for these remedies they could not take, and, besides, they interfered with the action of the kidneys and liver

Dr. R. Tilley desired to add his testimony to the special value of tincture of iodine in these cases, although no one remedy could be used in all cases. He also thought corrosive sublimate was beneficial, and he placed great reliance upon it. But he preferred the use of hot baths in the early stage of this disease as facilitating profuse perspiration instead of using veratrum viride. He was satisfied that bacteria were a causative agent of this disease.

Dr. J. J. M. Angear said that the microscopists had settled it that micro-organisms or microbes were a cause of diphtheria. Alcohol, as was well-known, destroyed vegetable growths. A fifteen-per-cent. dilution would prostrate or paralyze them, and, if its use was continued, would kill them. He therefore thought it a good local application. But these germs flourished best in a high temperature. We could not get alcohol as strong as a fifteen-per cent. dilution to circulate in the blood. Therefore, how did it kill them when the blood contained them? Then, too, why administer any alcohol and veratrum? Did not these remedies antagonize each other? There was harmony between the germ theory and the local use of alcohol. But he should think cold applications were preferable to hot drinks or to hot baths, for the reason that germs flourished better under a high temperature.

Dr. A. Leigh had found, in treating more than a hundred cases during the past four years, that, of all agents *per se*, hot or cold, there was none better than a concentrated or dilute preparation of the perchloride of iron. But in really malignant

cases no treatment was of any avail. Alcohol, hot or cold, was a good cardiac stimulant, but quinine would do better work. Tincture of iron would produce contraction or hardening and shriveling of the membrane. There was no doubt that micrococci were present in the throat in this disease. Therefore, if the cases were seen early, and the iron was applied, benefit would be derived, except where the case was profoundly malignant. Tincture of aconite was superior to veratrum to bring about free diaphoresis.

Dr. H. J. Reynolds had come to the conclusion that there were no remedies that had a specific effect on diphtheria. The most that could be done was to rely upon supporting measures to help the patient along until the disease ran out. If the membrane entered the larynx, he would advise inhalation of steam. He thought no benefit would be derived from alcohol or veratrum. When the disease was malignant at the onset, no treatment was beneficial.

Dr. A. Goldspoon had treated a hundred cases of diphtheria during the last two years. He had seen great constitutional disturbance present when the local signs were quite insignificant, and cited a case of this kind occurring to a little girl that died in ten hours from the time she was attacked. The system was so depressed that she died of heart failure. In such cases it would be reprehensible to administer aconite or veratrum. To reduce the temperature, he relied upon quinine. Alcohol could not be given sufficiently concentrated to act through the circulation as a germicide, although it might do good locally.

Dr. Paoli said that when diphtheria appeared in countries, and at a season when the temperature was very low, it was equally destructive. Alcohol might prove beneficial in some cases that were peculiarly asthenic.

The President recited an epitome of Morrell Mackenzie's views upon the pathology and treatment of diphtheria.

Dr. W. H. Wilson thought that we could not give sufficient whisky to a child having diphtheria to intoxicate it. Recently he had treated six cases of the disease in children, five of whom recovered, and to these he gave large quantities of alcohol. In the other case, the parents (on moral grounds) would not permit him to give the child whisky, and he was confident that, had he been permitted to do so, this child also would have recovered.

Dr. Chapman conceded the impossibility of producing intoxication in a patient having diphtheria. He maintained that by treating cases in this way, paralyses were made less liable to follow. He was sure it also quieted the cerebral symptoms such as delirium, and did not increase hyperæmia of the brain. Regarding the administration of veratrum and alcohol alternately, he did this during the first or congestive stage, or until perspiration was well established. We should begin the use of alcohol as early as we were sure of our diagnosis. By so doing, the fungi were destroyed and we prevented their entering the blood-vessels. If a few did enter the circulation, it was not so bad as if they passed in in swarms.

CHICAGO GYNECOLOGICAL SOCIETY.

Friday evening, Feb. 20th, 1885. Regular Meeting.—The President, Dr. H. P. Merriman, in the chair.

I. Report of Dr. Christian Fenger, on Professor Byford's "Two Cases of Mural Pregnancy."

II. Intra-mural Leio-myoma, exhibited by Dr. E. C. Dudley.

III. Functions of the Membranes in Labor, by Dr. Henry T. Byford.

IV. Two interesting Cases in Obstetrics,—Inaugural Thesis,—by Dr. Charles Caldwell.

I. Professor Christian Fenger presented a report of his anatomical investigation of Professor Byford's "Two Cases of Mural Pregnancy." (CHICAGO MEDICAL JOURNAL AND EXAMINER, Jan., 1885). The report appears in full in another column.

Professor Christian Fenger, after a careful microscopical and macroscopical examination, pronounced Case, No. I, *tubo-ovarian* pregnancy, Case, No. II, *tubo-abdominal pregnancy*.

On motion, Professor Fenger's report was accepted.

II. Professor W. W. Jaggard presented, for Professor E. C. Dudley, an intra-mural leio-myoma of the uterus. The fundus was more particularly involved; the cavity of the uterus was but slightly enlarged, and the *endometrium* was normal. The tumor weighed about fifteen pounds. Both tubes and ovaries were removed with the uterus. The ovaries had undergone extensive cystic degeneration.

The tumor was removed, by abdominal section in the median line, with supravaginal amputation of the vaginal portion of the uterus, both ovaries and tubes, on Friday, Feb. 20th, at Mercy Hospital. The pedicle was surrounded by *écraseur*, and rubber ligature, before amputation; subsequently, the pedicle was secured in Dawson's Clamp, and treated after the extra-peritoneal method. The peritoneum was carefully stitched around the lower angle of the incision and parietal peritoneum was, thus, united to visceral peritoneum.

III. Dr. Henry T. Byford then read a paper entitled,

"Functions of the Membranes in Labor."

Dr. Byford discussed fairly, clearly, and forcibly the possibility, probability and utility of the preservation of the membranes from rupture until they dilate, or aid in dilating the vulvo-vaginal orifice, as well as the cervix.

Dr. Byford's paper appears in another column.

Discussion.—Professor James H. Etheridge thought the paper well-timed.

Professor W. W. Jaggard, while not prepared to accept the thesis of the paper as a universal proposition, thought the attention to the functions of the membranes, advised by Dr. Byford, would go far to prevent cervical, vaginal and perineal laceration in many cases.

Professor D. T. Nelson said the membranes, when adherent to the cervix, as pointed out by Professor DeLaskie Miller, delayed labor. Under these conditions, puncture of the membranes was indicated. In practice, he tried to find out whether or no, the membranes were adherent to the cervix. If adherent, he punctured the membranes; if free, he always waited for spontaneous rupture.

Dr. Philip Adolphus agreed with the author of the paper in his conclusions, except in case of hydrammios. Under such pathological conditions, it was frequently necessary to rupture the membranes, in order to secure uterine contractions.

Professor J. Suydam Knox was in the habit of aiding dilatation of the vaginal os with the finger. He was under the impression that the membranes were seldom operative in the dilatation of the vulvo-vaginal orifice.

Dr. Edmund J. Doering had followed Dr. Byford's suggestion during the past year, and believed the method had prevented perineal lacerations in many cases. Premature detachment of the placenta was a possible danger from delayed rupture of the bag of membranes.

Dr. Edward Warren Sawyer believed that the membranes should not be punctured until the *os uteri* was dilated to the extent, which the pelvis, in the concrete case, would permit. The function of the bag of waters, in labor, was the dilatation

of the *os uteri*. He ruptured the amnion in one-half his cases. There was as great variation in the development of the uterine muscular tissue as in the development of the biceps. Retardation of rupture of the bag of membranes might lead to uterine inertia, or to premature detachment of the placenta. To follow Nature's suggestions was a beautiful theory; but Nature caused the membranes to be ruptured, in the majority of cases, before dilatation of the vaginal os. He was in the habit of aiding dilatation of the uterine os by the introduction of one or two fingers within the canal of the cervix; he also tried to peel off the membranes around the internal os, and was conscious that he had materially influenced, in a favorable direction, the process of parturition.

The periphery of the *os uteri* was less than the periphery of the vaginal orifice. It was inconceivable, under such physical conditions, that the bag of membranes, protruding through a smaller, could dilate a larger orifice.

Professor Charles Warrington Earle agreed with Dr. Sawyer that natural processes should be imitated, in the puncture of the bag of membranes, after complete dilatation of the *os uteri*.

Dr. H. P. Merriman thought Dr. Byford's paper contained excellent advice for the young practitioner. The thesis could not be accepted as a universal proposition. Dr. Sawyer and Professor Earle had pointed out the conditions, in which the application of the method was contraindicated.

Dr. Henry T. Byford, in conclusion, said that he had distinctly pointed out in his paper, that the retardation of rupture of the membranes was advisable only in perfectly physiological labors. The Fellows of the Society had called attention to pathological conditions, to which the method did not apply.

Dr. Sawyer had read a paper on "Occipito-posterior Posi-

tions," before the "American Gynecological Society," last October. A plausible explanation of the fact, that anterior rotation did not occur in Dr. Sawyer's thirty-nine cases, might be found in the premature rupture of the membranes.

IV. The inaugural thesis of Charles Caldwell, A. M. (Dartmouth), M. D. (Harvard), entitled "Two Interesting Cases in Obstetrics," was read by the Secretary.

Dr. Caldwell's two interesting cases were, (1) Ante-partum Hæmorrhage, caused by Accidental Separation of the Placenta; (2) Breech Presentation, with an Unusual Complication. The paper will appear *in extenso* in the CHICAGO MEDICAL JOURNAL AND EXAMINER.

Discussion.—Dr. Sawyer was surprised that a physician of the present day should disregard the opinion of Velpeau in the exhibition of ergot, when the cavity of the uterus was not empty, as Dr. Caldwell did, when he gave that remedy in his case of accidental hæmorrhage, from premature detachment of the placenta.

Dr. Henry T. Byford thought that the clinical observations of Schatz justified the exhibition of small doses of ergot, even when the uterus contained the fecundated ovum.

Dr. Charles Caldwell was then elected Fellow of the Society.

The Society adjourned to meet at the Palmer House, Friday evening, March 20th, 1885.

Professor Christian Fenger will read a paper—with demonstration of specimens—entitled "Chronic Peri-uterine Abscess."

W. W. JAGGARD, M. D., *Editor*,
2330 Indiana avenue.

February 21st, 1885.

BOOKS RECEIVED.

BOOKS AND PAMPHLETS RECEIVED.

Diphtheria, Croup, etc., or the Membranous Diseases, by G. B. Galentin, M. D. J. H. Vail Co. Chicago: W. T. Keener.

A Text-Book of Pathological Anatomy and Pathogenesis, by Ernst Ziegler. Wm. Wood & Co. Chicago: W. T. Keener.

On a New Method of Recording the Motions of the Soft Palate, by Harrison Allen, M. D. P. Blakiston Son & Co. Chicago: W. T. Keener.

Tex-Book of Medical Jurisprudence and Toxicology, by John J. Reese, M. D. P. Blakiston, Son & Co. Chicago: W. T. Keener.

A Manual of Diseases of the Throat. Vol. II. By Morell McKenzie, M. D. Wm. Wood & Co. Chicago: W. T. Keener.

Eleventh Annual Report of the State Board of Health of Michigan.

A System of Human Anatomy including its Medical and Surgical Relations. Section vi. By Harrison Allen, M. D. Henry C. Lea's Son & Co.

A Manual of Obstetrics, by Edward L. Partridge, M. D. Wm. Wood & Co. Chicago: W. T. Keener.

Practical Manual of Diseases of Women and Children, by Eustace Smith, M. D. Wm. Wood & Co. Chicago: W. T. Keener.

Practical Manual of Diseases of Women and Uterine Ther-

apeutics, by H. Macnaughton Jones, M. D. D. Appleton & Co. Chicago: Jansen, McClurg & Co.

Osteotomy and Osteoclasis for Deformities of the Lower Extremities, by C. T. Poore, M. D. D. Appleton & Co. Chicago: Jansen, McClurg & Co.

The Lock-Jaw of Infants, by J. F. Hartigan, M. D. Birmingham & Co.

A Practical Treatise on Fractures and Dislocations, by Frank H. Hamilton. Henry C. Lea's Son & Co. Chicago: Jansen, McClurg & Co.

The Ear: its Anatomy, Physiology and Diseases, by Chas. H. Burnett, M. D. Henry C. Leas Son & Co. Chicago: Jansen, McClurg & Co.

Atlas of Female Pelvic Anatomy, by D. Berry Hart. D. Appleton & Co. Chicago: Jansen, McClurg & Co.

The Elements of Pathology. By Edward Rendfleisch. Translated by W. H. Murcur, M. D. P. Blakiston, Son & Co. Chicago: W. T. Keener.

Index Catalogue of the Library of the Surgeon-General's Office, Vol. V.

Medical Rhymes. By Hugo Erichsen, M. D. J. H. Chambers & Co.

Myths in Medicine and Old Time Doctors. By A. C. Yanat, M. D. G. P. Putnam's Sons.

Malaria and Malarial Diseases. By Geo. W. Sternberg. Wm. Wood & Co. Chicago: W. T. Keener.

Diseases of the Nose. By Clinton Wagner, M. D. Birmingham & Co.

A Manual of Dermatology. By A. R. Robinson, M. D. Birmingham & Co.

Medical Diagnosis, a Manual of Clinical Methods. By J. Graham Brown. Birmingham & Co.

Lectures on Diseases of the Rectum. By J. W. Wright, M. D. Birmingham & Co.

Surgical Delusions and Follies. By John B. Roberts, A. M., M. D. P. Blakiston, Son & Co.

Transactions of the Indiana State Medical Society, 1884.

Surgery of the Urinary Organs. By Sir Henry Thompson. P. Blakiston, Son & Co.

A Theoretical and Practical Treatise on the Haemorrhoidal Disease. By Wm. Bodenhamer, A. M., M. D. Wm. Wood & Co. Chicago: W. T. Keener.

A Practical Treatment on Massage. By Douglas Graham. Wm. Wood & Co. Chicago: W. T. Keener.

A Practical Treatise on the Diseases of the Ear. By D. B. St. John Roosa. Sixth Edition. Wm. Wood & Co. Chicago: W. T. Keener.

Swayne's Obstetric Aphorisms. Eighth Edition. P. Blakiston, Son & Co.

Micro-Organisms and Disease. By. E. Klein. London: McMillan & Co.

Conférènces Thérapeutiques et Cliniqués sur les Maladies des Enfants. Par le Dr. Jules Simon. Tome II. Paris.

A Pharmacopoeia for the treatment of Diseases of the Larynx, Pharynx and Nasal Passages. G. M. Lefferts, A. M., M. D. Second Edition. G. P. Putnam's Sons.

A Manual of Bandaging. By C. Henri Leonard, A. M., M. D. Second Edition. Illustrated Medical Journal Co., Detroit.

The Basic Pathology and Specific Treatment of Diphtheria and Zymotic Diseases, by Geo. G. Ziegler, M. D.

THE CHICAGO

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ORIGINAL COMMUNICATIONS.

ARTICLE I.

SOME REMARKS ON THE VALUE OF PERMANGANATE OF POTASSIUM IN AMENORRHŒA.

By EDMUND J. DOERING, M. D., *Chicago.*

[Inaugural Thesis, read before the Chicago Gynecological Society, March 20th, 1885.]

Although several years have elapsed since Drs. Ringer and Murrell first introduced permanganate of potash, as an emmenagogue, to the profession, there is yet a feeling of uncertainty as to its true value. I presume this is partly due to the difficulty of determining in any given case, whether the reappearance of the menses is due to the remedy given or due to natural causes; and on the other hand, one or two failures with a new remedy will generally cause the physician to abandon its further use. It is therefore only by carefully conducted clinical observations, and by the accumulated experience of those who have given this remedy a fair trial, that it can be finally determined whether permanganate of potash is or is not an efficient emmenagogue. According to the U. S. Pharmacopœia, permanganate of potash occurs in deep-purple,

violet, or nearly black needle-shaped rhombic prisms of a metallic lustre, permanent in the air, odorless, having a sweet, afterward disagreeable, astringent taste, and a neutral reaction. It is soluble, with the exception of a scanty brown residue, in twenty parts of water at 59° Fahr. and in three parts of boiling water.

It is remarkable for the quantity of oxygen which it contains and for the readiness with which it yields it up, and upon this chemical fact its use is based, both as an internal and external remedy. On the other hand, this very fact is claimed by chemists as an absolute proof that it is utterly useless when administered by the stomach.

Bartholow, who has great faith in this drug, claims that, although it parts with great readiness with its oxygen, this readiness is *not* sufficiently great to prevent the distribution of this gas into the blood. His opponents deny this, and argue that the organic matter contained in the stomach and mucous membranes is sufficient to appropriate the oxygen of the salt and thus prevent its entrance into the circulation.

Desiring further light upon this matter, I requested Professor N. Gray Bartlett, the well-known chemist, to give his views, which he courteously consented to do. His opinion is as follows:

"From the readiness with which the permanganate of potssium is decomposed by organic compounds, it would seem to be ineligible for internal use. When so administered, it is immediately brought in contact, in the stomach, with a relatively large amount of organic matter, and must, necessarily, be very rapidly destroyed, the manganese of the permanganate separating, in all probability, in the form of the hydrated manganese dioxide. The latter compound is an active oxidizing agent, and is possibly capable of exercising in the economy the oxidizing function which has been ascribed to the permanganate of potassium. It would seem rational, therefore, antic-

ipating the change which follows the administration of the permanganate, to substitute for the latter the hydrated manganese dioxide, which can readily be prepared in a state of purity for medicinal use."

Whatever view may be adopted of the chemical changes which the permanganate undergoes in the human economy, the main question is as to its therapeutical value. Professor Thomas, in a recent address to the New York State Medical Association, says: "Permanganate of potash, as an excitant of the menstrual flow, is, I think, the best emmenagogue which has yet been discovered. Drs. Ringer and Murrell recommend this remedy in amenorrhœa, depending on torpor, anæmia and deficient activity of the menstrual apparatus, it being contra-indicated when acute congestion or a general condition of sthenic reaction exists. They recommend it to be given in doses of one grain first, to be gradually increased to two grains four times a day, as near as possible to the regular date of menstruation, and continued for three or four days. I may say, right here, that in every case in which I have administered the drug in this manner, it has proven useless. I have given the permanganate of potash a careful trial, having used it in about thirty cases of amenorrhœa, depending on anæmia and general atony of the sexual apparatus. Of this number, I have eliminated about one-half, in the subjoined table, the action of the remedy not having been satisfactory, from various causes, such as inattention to the general directions, want of perseverance in taking the medicine, etc., so that the actual number of cases on which my conclusions are based, is narrowed down to fourteen, in each of which, however, the cause of the amenorrhœa was entirely clear, the remedy carefully and continuously given, and the effect closely observed. In order to be brief, I have grouped these cases in the following table, instead of giving the history of each case at length:

Case.	Age.	Single or Married.	Cause of Amenorrhœa.	Length of time Catamenia abs.	Remedy, How Administered.	Results.	Remarks.
I.	16	S.	Anæmia.	4 months.	1 gr. 3 p. d.	Failure.	Remedy given for one week at date of expected menstruation for two consecutive months. Menses appeared finely under a course of iron tonics.
II.	17	S.	Anæmia.	2 months.	1 gr. 4 p. d.	Failure.	Similar result as above.
III.	19	S.	Anæmia.	3 months.	" "	Failure.	" "
IV.	26	M.	General atony.	3 months.	2 gr. 3 p. d.	Success.	Remedy taken for three weeks.
V.	20	M.	Anæm. fr. nursing.	4 months.	" "	Success.	" " one month.
VI.	40	S.	General atony.	3 months.	2 gr. 3 p. d.	Failure.	Remedy taken every alternate week for six weeks. Three weeks after discontinuing remedy, menses appeared.
VII	17	S.	" "	2 months.	1 gr. 3 p. d.	Failure.	Remedy given at expected period for two months.
VIII.	18	S.	Anæmia.	2 months.	2 gr. 3 p. d.	Success.	Remedy taken for two weeks.
IX.	29	M.	General atony.	3 months.	2 gr. 3 p. d. Later, 4 gr. 3 p. d.	Success.	Three weeks, two grains three times a day—no result. Finally, four grains three times a day, successful in one week. Next period again missed. At the expected period following, the drug given in four grain doses for one week, successful. Since then, period regular.
X.	18	S.	Anæmia.	5 months.	2 gr. 3 p. d.	Success.	Remedy given two weeks.
XI.	32	M.	Gen.atony fr.nurs'g.	2 months.	3 gr. 3 p. d.	Success.	" "
XII.	21	S.	Anæmia.	6 months.	1 gr. 3 p. d.	Failure.	Remedy given two weeks at two different periods. Suspicion of phthisis. Later, iron and cod liver oil, successful.
XIII.	32	M.	G. a. in obese person.	2 months.	2 gr. 3 p. d.	Success.	Remedy given every alternate week for six weeks.
XIV.	25	M.	Anæmia following nursing.	3 months.	2 gr. 3 p. d. Later, 4 gr. 3 p. d.	Success.	The large dose proved successful, after ten days' administration.

Note.—In all but two of the above cases, the remedy occasioned more or less epigastric pain, substernal pressure and colicky pains.

Conclusions.—I. Permanganate of potash, in doses of from two to four grains, is an efficient emmenagogue, if administered for a period of not less than two weeks.

II. Its administration in doses large enough to be effectual is accompanied by severe pain, which frequently necessitates a discontinuance of the remedy, and hence impairs its value as an emmenagogue.

III. The most efficient method of administering the drug is in capsules, taken midway between meals, and followed by large draughts of some pure mineral water, like silurian.

2406 Prairie Ave.

ARTICLE II.

THE INFLUENCE OF CIMICIFUGA RACEMOSA ON PARTURITION.

By J. SUYDAM KNOX, A. M., M. D., *Adjunct Professor of Obstetrics and Diseases of Children, Rush Medical College.*

[Read before the Chicago Gynecological Society, March 20, 1885.]

Cimicifuga racemosa is no new drug. Ever since the paper of Dr. Young, in 1831 (*Amer. Jour. Med. Sci.*, vol. 9), black cohosh has been largely used by American practitioners.

On reviewing the literature of the subject, quite uniform testimony is found from eclectic, homœopathic and regular physicians, as to the sedative and anti-spasmodic action of the drug. This testimony is strongest among eclectic physicians, but is sufficiently voluminous among regular prescribers to command attention.

This clinical proving asserts the positive value of cimicifuga in chorea, spasmodic cough, congestive amenorrhœa and

dysmenorrhœa, and in rheumatism. Eclectic physicians in addition claim for it oxytocic properties, recommending it as a substitute for ergot (King & Lloyd's Amer. Dispens., 15th Edit.)

It is surprising that the physiological action of a drug so long and widely used has not yet been ascertained, and its special therapeutic value determined.

About three years ago I first commenced to use cimicifuga racemosa in obstetric practice, my attention having been called to it by an obstetrician of large experience of this city. He stated positively that the use of black cohosh, on account of its favorable influence on labor, had shortened his average attendance in the lying-in room at least two hours.

I at first prescribed the drug to all cases that I was called upon to attend, but later, on account of certain precipitate labors, only to primiparæ, and those multiparæ, who had a previous history of dystocia.

My cases number 150: 57 primiparæ and 93 multiparæ. Considering labor as commencing as soon as pains are regular, its average duration among primiparæ was six and one-fourth hours, and among multiparæ exactly three hours.

Considering the second stage of labor as beginning with full dilatation of the external os, its average duration among the primiparæ was one hour and forty-five minutes, and among the multiparæ only twenty-seven minutes.

In reviewing my notes of the above 150 cases, I have come to the following conclusions:

1. Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability. Nausea, pruritus and insomnia, so common in the last six weeks of pregnancy, are always bettered, and often disappear, under its administration.

2. Cimicifuga has a positive anti-spasmodic effect upon the

parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact, during the first indiscriminate use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

3. Cimicifuga relaxes uterine muscular fibre and the soft parts of the parturient canal, by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

4. Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

5. It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery. It is my habit, however, to administer 15 to 30 minims of fld. ext. ergot after the birth of the fœtal head, and I have had but few opportunities of testing this effect of the cohosh.

To illustrate the above propositions, the following cases are cited:

Case 1.—Mrs. S. Second labour. First labour protracted through two days. Finally puerperal eclampsia and a forceps delivery. November 17, 1884, consulted me for uterine neuralgia, with insomnia and pruritus. Prescribed fld. ext. cimicifuga, 15 minims night and morning. Urine, normal. Complete relief of bad symptoms followed. Normal labour occurred six weeks thereafter. Second stage, forty-five minutes.

Case 2.—Mrs. B. Second labour occurred December 23, 1884. Eighteen months before I attended her in her first labour, which lasted nine hours, and finally used forceps. She had refused to take cohosh. She cheerfully took the drug the last four weeks of her second pregnancy. Pains came on without prodromic symptoms, and the babe was born before my arrival, fifteen minutes after the first indications of labour.

Case 3.—Mrs. C. Fifth labour, November 20, 1884. As all previous labours had been instrumental, I gave cohosh night and morning for six weeks before confinement. She evidently got too much of the drug, for a week before delivery I was sent for on account of bearing down without pains, and found the os dilated fully three inches. This condition existed seven days, when the waters broke for want of support, and labour came on and was terminated in ninety minutes.

Case 4.—Mrs. K. Third labour, February 11, 1884. Two previous labours tedious and instrumental. Took cohosh each night for four weeks before present labour. First stage, three hours; second stage, thirty minutes; delivery normal.

Case 5.—Mrs. L. Third labour, January, 1885. First labour, ninety hours; second labour, forty-five hours, and delivery instrumental. Took cohosh, on account of an error in calculation, each night for two months before third labour. Like case 3, she took too much of the drug, and three days before labour I was called to see her on account of bearing down without pains. Found the os widely dilated and membranes protruding. Labour came on suddenly the third day thereafter, and delivery occurred within an hour after the pains set in.

Case 6.—Mrs. R. Second labour, February 22, 1884. First labour, three years before, was extremely tedious in its first stage, lasting forty hours, with extreme pain before the os dilated. Second labour, under the influence of cohosh, came on without prodromes, and was accomplished within an hour.

Case 7.—Mrs. D. First labour. Under a dread of pain, she took twice the quantity I ordered, for two weeks before delivery. Labour came on precipitately, and the child was born in forty-five minutes.

I might enumerate a score of cases, were it not a tedious repetition.

My method of administration has been to give 15 mimins of the fld. ex. of cimicifuga in co. syr. of sarsaparilla each night for four weeks before the expected confinement.

One fluid ounce of the fluid ext. cimicifuga to three fluid ounces co. syr. sarsaparilla; dose, one teaspoonful, makes just the required quantity.

ARTICLE III.

TWO INTERESTING CASES IN OBSTETRICS.

By CHARLES CALDWELL, A. M., M. D.

[Inaugural Thesis read before the Chicago Gynecological Society, Feb. 20th, 1885.]

CASE I. ANTE-PARTUM HÆMORRHAGE, CAUSED BY ACCIDENTAL SEPARATION OF THE PLACENTA.

Mrs. B——, German, aet 45, and pregnant with her eleventh child, was awakened at 1 a. m. Sept. 19th, 1884, by an acute pain in the epigastric region, followed by a perfect gush of blood from her vagina. A neighbor midwife was called, but became frightened at the profuse hæmorrhage and advised that a physician be sent for. I reached the house at 3 A. M. The midwife said she had been in attendance an hour, and had removed several sheets and quilts which were saturated with blood.

Fearing placenta prævia, I made an examination at once. The os was dilated the size of a silver dollar, but the head, which was presenting, was high up and not yet engaged. The membranes were still intact. I passed my finger up into the uterus, and found it was not even a case of placenta prævia marginalis. The uterine contractions were weak and ineffective, but the pain in the epigastric region still acute and incessant.

She said her suffering was greater than at any previous confinement, and very different; this was more like colic pain.

Her husband is a grocer, and she had been assisting him in the store during her period of gestation, handling boxes and baskets of heavy vegetables and fruits.

I diagnosed the case one of partial or complete detachment of the placenta, brought about by lifting some large, heavy body, which she had pressed against her abdomen. For we know washerwomen often bring on miscarriage by lifting their heavy tubs.

I gave ergot immediately, and pressed on the fundus with the left hand, to force the head down into the pelvis, and thus check the hæmorrhage, while with the right I dilated the os. The uterus did not respond readily to the ergot, for the contractions did not increase in strength or frequency, and a domestic remedy was tried. A bag of hot salt, four inches wide by twelve inches long, was applied to the spine. Whether the salt deserves the credit by its stimulating effect, or the ergot was tardy in its action, I am unable to say, but within twenty minutes after the application of the salt, the uterine contractions had so increased in force, that the head had descended and become engaged, stopping the hæmorrhage.

Pains were now regular and strong, completing the second stage of labour in half an hour. The membranes were not ruptured until ten minutes before the fœtus was expelled.

The second and third stages of labour were completed together, and the maternal surface of the placenta was covered with a dark, thick blood clot, showing it had been detached some time. The child was still-born. From the history of this case, it comes under class (b) as described by Dr. Goodell, in his monograph on "CONCEALED ACCIDENTAL HÆMORRHAGE OF THE GRAVID UTERUS," where the placenta is so detached as to allow the blood to escape behind the membranes into the uterine cavity. After the uterus had expelled its contents it con-

tracted well, and gave my patient no more trouble, which was very fortunate for her. She was safely through her parturition, but by no means out of danger, for the hæmorrhage had been so profuse that it left her exsanguinated and exhausted.

The third day after her confinement, diarrhœa set in, and for ten days she passed copious involuntary stools. Opiates and astringents of various kinds and combinations were exhibited with very little effect. She was able to retain liquid nourishment at all times, and took her milk and mutton broth every two hours, in addition to a pint and even as much as a quart of brandy every twenty-four hours. At the end of two weeks she began to improve slowly, but was not able to leave her bed for a month. Her temperature was never above 101°, and there was no tympanites. The lochial discharge was normal, stopping at the twentieth day. The heart's action was weak and rapid, owing to her very anæmic condition. She is now enjoying as good health as usual, and assisting her husband in his grocery.

CASE 2. BREECH PRESENTATION WITH AN UNUSUAL COMPLICATION.

I was called, Dec. 27, 1884, at 4 A. M., to attend Mrs. C——, who was in labour with her eighth child. She was a French Canadian, aet 31, married at the age of fifteen, and was strong and healthy.

On my arrival, she told me "she had been in labour two hours and that the waters had broken before she had her first pain."

As soon as I could warm and disinfect my hands, I made an examination. The os was dilated to the size of a small door-knob, soft and patulous.

Both feet were presenting and protruding through the os. By passing the index finger up into the uterus, above the brim,

the tuberosities of the ischia, vulva and anus of the fœtus could be felt to the right of the median line. By palpation the knees could be felt above the brim on the left. The fœtus seemed to be seated on the right brim of the pelvis with her knees resting on the left, sticking her feet down through the os uteri for the accoucheur to seize hold of.

That this peculiar and unique position was an impediment to labour, no one can doubt, if the diagram is a correct one.

Whether the second stage of labour could have been completed without assistance it is impossible to say, but I think not.

The *liquor amnii* had all escaped, so I dilated the os with my hand, completing the first stage of labour as quickly as possible. By bi-manual manipulation I changed the position of the

fœtus, so that it was possible to bring down the feet, in the following way:

I introduced my right hand into the vagina, and the index and second fingers into the uterus; placing the ends of the fingers against the tuberosities of the ischia, I made pressure upwards and to the right, while with the left hand over the fundus uteri, I made pressure on the occiput of the fœtus, forcing the head downwards and to the left. Holding the fœtus in its new position with the left hand, I easily brought down the feet with my right. While I was delivering the body of the fœtus, I asked one of the attendants to warm a towel to wrap around the child while I was delivering the head, expecting some delay, for it was quite large. As I was in the act of wrapping the towel around the child, the mother, with one mighty muscular effort and a scream, expelled the head, making me feel happier than any one present except the mother.

I never saw a woman who had as much expulsive power as this one.

I attended her three years ago, when her seventh child was born, and she was in labour only twenty minutes, having but four pains.

When I made the first examination, she asked me "if her baby was in a natural position," and upon being told it was a foot presentation, she said, "she had been afraid something was wrong, for she had felt the movement of the child on the left side, while with all the others it had been on the right. She left her bed the third day after her confinement (not by my advice), and has been doing all of her work since. In examining the various obstetric works at my command, I have failed to find the report of a case with this peculiar complication.

815 Forty-third Street.

ARTICLE IV.

CASES OF CHANCRE OF THE EYELID AND OF THE CARUNCLE.

Reported to the CHICAGO OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY. *By* E. L. HOLMES, A. M., M. D., *Professor of Diseases of the Eye and Ear, Rush Medical College.*

I have observed three cases in which the initial lesion of syphilis was located on the lids, and one in which it was on the caruncle. The infrequency of the location, and the occasional difficulty in the diagnosis, add to the interest of such complications. I have retained the history of but two of the cases, in which the lid was involved.

In 1865, Mr. M., 63 years of age, came to me with a characteristic ulcer of the left upper lid, which had slowly increased in size for a month, until it had destroyed a large triangular portion of the free border of the lid through the cartilage and integument.

The indurated and elevated edges were characteristic, and rendered a diagnosis almost certain at the first glance.

The pre-auricular glands were slightly enlarged and tender. The patient would not admit any known exposure. By the use of calomel locally, and *pilula hydrargyri* internally, the ulcer healed speedily, leaving a large notch in the lid. Although the patient was urged to continue the remedies many months, he returned at the end of three months with characteristic appearances of the throat and integument.

The second case presented complications which obscured the diagnosis. A young man, about 30 years of age, while employed in rolling rails, received a "flash," which burned his left side and arm, and also his upper lid, a drop of hot slag having been received in the fold of the integument, and held in place by a spasm of the orbicularis and muscles of the face.

A few days after the accident, the lid was found to be red,

and much swollen, presenting a dark-colored round spot, about a quarter of an inch in diameter, resembling a deep burn, (moxa).

I informed the patient that he would probably soon recover without much, if any, deformity of the lid, and simply prescribed vaseline dressings. In a few days the eschar was thrown off, leaving quite a deep ulceration on the swollen lid. I saw the patient at the end of two weeks, and was surprised to observe how little tendency there was for the ulcer to heal. At the end of two weeks more, there was no special change. There was the same amount of swelling and ulceration. My attention, however, was not attracted to anything characteristic in the lesion.

After three weeks, the general swelling of the lid began to recede, while the ulcer showed hard elevated edges—symptoms which might arouse the strongest suspicions. My colleagues at the Eye and Ear Infirmary, to whom I submitted the case for examination, concurred in the opinion that the ulcer was true chancre. The patient presented no evidence of infection, either on the genitals or other portions of the integument, and was unable to explain the complication. The pre-auricular and cervical glands were overlooked.

I must confess I am unable to form an opinion regarding the time when the burn became infected, or at what time a more experienced observer would have detected the dangerous nature of the affection.

It was decided, inasmuch as the ulcer was not encroaching on the free border of the lid, to continue palliative treatment and await developments. After ten days, characteristic roseola appeared, when the calomel was prescribed locally for the ulcer and *pilula hydrargyri* internally. The ulcer soon healed, with scarcely any deformity of the lid.

In the summer of 1882, a young physician came casually under my observation, while he was under the treatment of Dr. Montgomery. Subsequently he came temporarily under my care during the absence of Dr. M. For about four weeks there was simply an inflammation of the ocular conjunctiva at the internal angle, especially implicating the caruncle. This was very red and hypertrophied, with no appearance at any time of ulceration. The caruncle was in the condition of enlargement not unfrequently seen in certain cases of acute conjunctivitis. After three weeks, the pre-auricular and cervical glands became noticeably tender and enlarged. I had not the slightest suspicion of local infection, but, without questioning the patient, entertained the possibility that the local trouble was rebellious to treatment in consequence of constitutional infecfection, and urged the use of mercurials. The patient took *hydrargyri bichloridum* for a short period with benefit, but abandoned it. Professor Hyde, whose opinion was now sought, pronounced an unqualified opinion that the swelling of the conjunctiva was the primary lesion of syphilis, and verified his diagnosis by discovering characteristic eruption on the body. Simple treatment relieved the local as well as the general symptoms.

Years ago I enjoyed the best of opportunities to study the initial lesion of syphilis. During the past eighteen years I have not, I think, observed a single case in addition to those here reported, and consequently for a time was entirely off my guard in the last two cases. These certainly presented difficulties of diagnosis, and could well deceive any one not accustomed to observe chancre in unusual localities with unusual aspects.

The difficulty would probably be reduced to the minimum if the practitioner would carefully examine the condition of the nearest lymphatic glands, and from time to time inspect the surface of the body.

The lymphatics in the vicinity of the chancre are nearly always tender and enlarged. The converse of this, however, is not true, for large benign abscesses of the upper lid, near the external angle, are very liable to affect the pre-auricular glands.

In view of possible danger to friends surrounding a patient with chancre of the eye, early diagnosis and treatment are matters of exceeding importance. Any obscure indurations on the eye or its appendages, with inflammation, accompanied by an affection of the glands near, should receive most careful investigation.

207 Clark street.

EDITORIAL.

IRRESPONSIBLE OPINION.

An editorial appeared in the columns of the *Chicago Daily Tribune*, on Sunday, March 15, 1885, which criticised the medical and surgical treatment of General Grant's case in unmeasured terms.

After referring to the alleged illiberal spirit displayed by the physicians in charge, in the exclusion of the "Cancer Specialist," recommended by Mr. Elkins, from consultation, the author hurls the usual stereotyped anathemas at medical science in general and physicians in particular. The editorial reminds us vividly of the heated newspaper discussions of the surgical treatment of President Garfield's case. Our readers will probably remember the extreme coolness with which the *New York Herald* suggested the propriety of deciding upon measures of treatment through the medium of mass-meetings.

An article in the March number of *Macmillan's Magazine* contains some excellent remarks, addressed more particularly to newspaper strategists, but applicable, with equal force, to people generally, who speak with positiveness about things of which they have no knowledge.

The remarks might be addressed to newspaper physicians and surgeons, and particularly to our contemporary of the *Tribune*, who makes use of the "familiar provincialism" aptly described by the author of the article in *Macmillan's Magazine*. The writer says:

"There is a familiar provincialism used in deprecation of

such self-praise as is felt to be inevitable, 'Though I say it as shouldn't.' Might not this formula be extended to all such enforced judgments as I am contemplating? as thus, 'I am decidedly of the opinion that the attack at Tel-el-Kebir should have begun an hour earlier than it did, but seeing that I have been engaged all my life in the manufacture of small-clothes, and that although a volunteer I have never seen active service, 'I say it as shouldn't,'—Sir Garnet being so much more likely to be right than I.'"

And also:

"We cannot all be expected to emulate the sobriety of that Parisian bootmaker, a hero of fable—I am afraid—who on being asked his opinion of the respective merits of Turenne and the Grand Condé on the same stricken field, replied: 'I made the boots of both gentlemen; as far as boots go there is not a pin to choose between them; beyond that I cannot go, for it lies outside of my profession.'"

AN EASY METHOD OF EXTERNAL PELVIC MEASUREMENT.

At the meeting of the New York Obstetrical Society, October 7th, 1884, (*The New York Medical Journal*, February 7th, 1885), Dr. Murray reported a case of Cæsarean section.

"When Dr. Murray was called, the patient was almost moribund, the child's head was fixed, and the position was such that the diameters of the pelvis could not be taken." "The point to which Dr. Murray wished to call attention was the difficulty, under the circumstances, of making out the diameter of the superior strait."

Professor Alex. J. C. Skene, M. D., reports "A Successful Case of Laparo-elytrotomy," in the *Annals of Surgery*, January, 1885. "On examination, the doctor found a vertex presentation of a fully developed child, while the antero-posterior diameter of the superior strait was estimated by him at less than two inches."

"As it was clearly evident that the delivery of a living child through the natural passages was an impossibility, and as we both further believed the mother's chances would be better if subjected to laparo-elytrotomy than if craniotomy were to be attempted, we advised the abdominal section."

In Dr. Murray's case, apparently no attempt was made to measure the pelvis. In Dr. Skene's case, "the doctor" found "the antero-posterior diameter of the superior strait was less than two inches."

In both cases, the indications for operation are clearly left indeterminate, so far as the general reader is concerned.

All who are familiar with Dr. Murray's sagacity, and Professor Skene's sound judgment, will be inclined to believe that the operation was indicated in each case. But such belief will rest upon the confidence reposed in the two surgeons, and not on positive evidence. Medicine, however, is not a matter of sentiment.

The two cases, to which allusion has just been made, have absolutely no scientific value, as bearing upon the indications for the operation, and a grave injustice is inflicted upon the reading medical world.

Apart from the natural regret that so much valuable material and labor is practically lost, the omission of accurate pelvic measurement excites wonder and surprise, at a time when approximately exact methods exist, and can be found in the modern text-books on midwifery.

The laborious investigations of Baudelocque, Litzmann, Michaelis, Dohrn, Nägele, Kiwisch, and a host of others, are totally disregarded.

Nor is it at all essential to measure by internal digital methods the antero-posterior diameter of the inlet.

By means of the sculptor's caliper-compasses of Baudelocque,

(1784), it is possible to determine the distance between the anterior-superior iliac spines, iliac crests, great trochanters, spine of last lumbar vertebra and the symphysis, or the *conjugata externa* s. *Baudelocqui*. From such data, it is possible to estimate with approximate accuracy the dimensions of the large and small pelvis.

We desire to call attention particularly to the simple and ingenious method of external pelvic measurement, suggested by Kiwisch in 1851.

The external circumference of the pelvis in living women, measured by means of a tape, applied to the extremity of the spine of the last lumbar vertebra, carried midway between the iliac crest and the great trochanter to the symphysis, and back to the starting point, has an average of ninety ctm. The development of the *panniculus adiposus* and the slender character of the bones exercise little influence upon this circumference. For every diminution of five ctm. in this circumference, it has been found that the antero-posterior diameter of the superior strait is diminished in length by one ctm.

Thus, an external pelvic circumference of 90 ctm. means a true conjugate of 11 ctm.; 85 ctm., 10 ctm.; 80 ctm., 9 ctm.; 75 ctm., 8 ctm.; 70 ctm., 7 ctm.; 65 ctm., 6 ctm.

Coxalgia and luxations of the hip joint, invalidate the method, for obvious reasons. None of these pathological conditions existed in the cases of Dr. Murray and Professor Skene.

Kiwisch's method has been subjected to continual application, since its introduction, in all the larger lying-in hospitals of Continental Europe.

Reliance is placed upon it particularly by Professor Carl Braun, of Vienna. It will be remembered that Professor Carl Braun has performed more Cæsarean sections than any living

obstetrical surgeon. The number of Cæsarean sections in Vienna may be explained by the fabulous number of women, confined in the *Allgemeines Krankenhaus*, and the social condition of the peasant class.

SANITARY INSPECTION. "CLEANLINESS IS THE BEST PROTECTION AGAINST CHOLERA."

The system of house-to-house inspection inaugurated in this State by the State Board of Health, must result in good, even if but imperfectly carried out. It is very true that "knowledge of defects and evils is the first step toward their remedy," and the information gained by the laity by this inspection, in many parts of the State, will come as a revelation to a large number of people who have given little, if any, attention to the subject of sanitation. The efforts, so far, of sanitarians have been made chiefly where there are large aggregations of individuals. These numbers render the work the more important only because of the numbers. Each year efforts are being made to extend the field of this useful work more than in the past. It must result in an improved sanitary condition wherever such requirements as those of our Board of Health are enforced.

This improved condition will do much to reduce the amount of the ordinary preventable diseases, and the knowledge gained by this effort will be far-reaching in its effect by drawing attention to the importance of removing disease-breeding nuisances that have long been tolerated, in proximity to dwellings and work-shops, from ignorance of their deleterious effects, and also from the indifference which comes from being "seen too oft," and with the same evil results that is said to attend increasing familiarity with vice.

Irrespective of any outbreak of cholera or other epidemic disease, this inspection must prove a gain, but should cholera

appear in this country during this year, which its past history renders probable, we shall have the responsibility resting upon ourselves if we fail to do our utmost to provide against it, after the warning we have had during the last year. In such an event, this house-to-house inspection, with its probable result of cleansing, will be of incalculable advantage in diminishing the evil results of such a visitation. Since the past history of cholera has shown that it is accustomed to follow the lines of human travel and traffic, thorough disinfection along the lines of travel, as far as this is practicable, has been urged. This is both wise and timely, and commends itself to the thoughtful and provident.

Our State Board of Health should receive the active support both of the medical profession and of the public in the laudable effort it is making to improve the sanitary condition of our people and of the State, and thus, by preventive measures, to prolong life and secure health, happiness and prosperity, if we should escape the threatened visitation, and, in case of its occurrence, to be as well prepared as possible to battle with it, and to reduce its evil results to the smallest practicable proportions.

SUICIDE.

The last necrological report of the Illinois State Board of Health, gives the reported cause of death of 202 physicians. Six deaths, about three per cent. of the entire number, have been attributed to suicide. A very large percentage as compared with other occupations. Again, we have five deaths in which the reported cause of death is an "overdose of morphia," and in two others an "overdose of chloral." It does not seem probable that these "overdoses" were all accidental. If we did so regard them, we must admit that a large number of deaths are caused

by the careless use of two powerful sedatives, for it is not supposable that physicians will only make mistakes when prescribing for themselves. Again, it would be very singular to have the mistakes confined strictly to the sedative poisons, to the entire neglect of those acids and powerful substances which cause a more or less painful death. The law of chance is not so beneficent in its operations. We cannot but class many of these cases among the suicides, and regard the "overdose" statement as a delicate shield placed there more for the comfort of relatives than out of strict regard for the truth.

FOREIGN CORRESPONDENCE.

To the Editors of the CHICAGO MEDICAL JOURNAL AND EXAMINER—*Gentlemen:* In some of my correspondence, which you have been so kind as to publish, I have alluded to several new remedies now in vogue in many European hospitals, and which I thought might be of some interest and value to your readers. Having myself paid considerable attention to the subject of therapeutics, I always hail with joy the appearance of new acquisitions to our armamentarium. Kairine and antipyrine are already well known as our latest valuable antipyretics, but a third one has just come forward, and is called *Talline.* This new alkaloid is a base of chinoline, which Kraup has recently prepared by synthesis. The name of talline is given, because when treated with perchloride of iron or any other oxidizing powder, it forms green crystals. Talline, when treated with tartaric, sulphuric and hydrochloric acid, forms salts very soluble in water, possessing strong antifermentative properties, but especially antipyretic, which action has been recently studied by Jacksch, of Vienna, (*Gaz. Med de Paris*). He ascribes to it a very potent febrifuge action. When given near a paroxysm of intermittent fever, talline prevents the development of the febrile stage, as it also abbreviates its duration if given during it. But it will not act as a cure, the paroxysm will return, so that quinine is needed and must be given to complete the cure. Talline will produce rapid lowerings of temperature when given in the course of pneu-

monia, of acute articular rheumatism, of erysipelas, of puerperal fever, and of tuberculosis. After the administration of ¼, ½ or ¾ of a gram the febrile temperature is lowered many degrees in four or five hours, and will not return to the primitive degree for some time. It has no effect as a medicament on the disease. The remedy is eliminated by the kidneys without causing any albuminuria nor glycosuria. The urine acquires a brownish tint, which changes into green when the liquid is examined by transparency. The following advantages have been ascribed to talline over antipyrine: There is less sweating during the stage of defervescence, the rigors are less frequent when the temperature is rising; the vomiting, cyanosis, collapse are always absent. It possesses a not disagreeable bitter-aromatic taste.

Another new preparation is *Ozoneine*, which Inimus has presented to the Biological Society of Paris. It is a liquid, and is prepared by Bech, a pharmacist of Paris. Ozoneine is a condensation of ozone, or a solution of it in water. Very highly disinfectant properties are attributed to it. Ozone was largely experimented with by Brand, with success, in the wards of choleraics and variolous patients at Toulon, and its efficacy was proven by Guiol, Long, Peyrremond and Rey-Escudier. Long and Guiol asserted that the significant immunity observed on those attending the cholera patients must be attributed to the ozonized air supplied continuously in the wards. (*Riv. Clin. e Terap.*) Ozonized water was used long ago by Lender in inflammations, in gangrene, glaucoma, neuralgia, diabetes and in all infective diseases, especially in diphtheria, for its local action in destroying the pseudo-membranes, which action sometimes occurs very rapidly. To disinfect wards of hospitals with ozone, there is a powder prepared by Krebs, Kroll & Co., of Berlin, composed of peroxide of manganese, permanganate

of potassium and oxalic acid. Two tablepoonsful of this powder with two tablespoonsful of water are sufficient to generate enough ozone to disinfect a hall for two hours. No metals must be left exposed.

Cocaine is still the leading topic of discussion in all medical circles. Since writing my last letter, many new observations have been presented. Innumerable are the indications for its use. But I will not usurp any more space in your journal to present to you all the reports, especially those of Mazza, Grasulli, Rosmini, Ielenk, DeMagri, etc., etc., in the diseases of the eye, and of Loughi, Desarenes and others, in diseases of the ear, for they all agree in pronouncing it a valuable remedy. By some opthalmologists it is used as a substitute for atropine. So far nothing else has been written about it except in praise.

Cremation is gradually progressing and becoming familiar throughout Italy. Education and persuasion are the only ways by which this reform must enter the minds and the hearts of the people. For this reason the progress it has made may seem slow, but it is not prudent to use violence in the control of the sentiments and prejudices to impose a funereal usage which is destined in time to become universal. One of the greatest obstacles to cremation was the deficiency of suitable furnaces which could rapidly, and with little expense, cremate the dead. But to-day the problem is solved, for it has been clearly demonstrated, that with the modern furnaces, cremation can be adopted as one of the greatest sanitary reforms. Italy has been the inaugurator of this method of disposing of the dead, and so far she has maintained her primacy over all nations in this field. The city of Milan has two cremation furnaces, one of Goviano and the other of Venini; Lodi, Rome, Cremona, Varese have adopted the Govini's furnace; Padua, Udine, Brescia, Novara have Venini's furnace, recently modi-

fied and which work to perfection. Florence, Pisa and Como, have also the Venini furnace. Leghorn has adopted Spasciani system. At Messina, and in the Variguano Lazaretto, near Spezzia, engineer Guzzi, by order of the Government, has built a furnace which combines the value of the Govini system and of the Venini process. During last year there have been 113 cremations, 82 males, 31 females. Two bodies were brought from France. In three an autopsy was previously made. Eight were exhumed. One was a priest. Four were the bodies of choleraics (at Cremona).

On the 15th of January, Dr. Lewis Nincini performed Porro's operation (utero-ovarian amputation) on a woman forty years old, primipara, at full term and twelve hours in labour. She had a narrow pelvis, caused by rickets. The operation lasted fifty-five minutes, and was finished without the least inconvenience. There was no spray, but the most rigorous antiseptic dressing was used. The skillful and valiant surgeon in this difficult operation was equal to his reputation, having operated with that security and ability for which he is noted. The patient soon rallied from the effects of chloroform and the shock of the operation, and is doing well. The new-born, a female, is alive and well.

The Secretary of State, Signor Mancini, has proposed to the foreign powers an International Sanitary Congress to convene in Rome for discussing and adjusting international sanitary measures against cholera. Premier Depretis will present to the Parliament a bill regarding the measures to be taken in case of epidemic diseases, and determining the duties of governors, sanitary councils and mayors.

With a philanthropic intent to better the conditions of the farming classes, especially in those provinces where pellagra is constantly present, the Minister of Agriculture, Industry and

Commerce has offered eight gold medals with 500 francs each, and eight silver medals with 300 francs each, to the promotors, founders and exercisers of economical ovens for the use of the rural population; or of any other institution indicated to better the condition of farmers; also eight gold and silver medals for the best colonical houses. The applications for the concours must be presented not later than the 31st of July, 1885. It is indeed time that something be done to eradicate this horrible disease, which annually takes away hundreds of human beings. What the poor classes want is: less taxes and better food. The government is throwing away millions of dollars in African expeditions and colonial acquisitions, while the money is most needed at home to relieve the pauperism so prevalent in the pellagra districts.

Money and provisions are the *antiseptics* of pauperism and famine, which are the only and true *bacilli* of pellagra.

A. LAGORIO, M. D.

No. 6 Piazza Nazionale, Chiavari, Italy.

SOCIETY PROCEEDINGS.

TRANSACTIONS OF THE CHICAGO MEDICAL SOCIETY.

Regular Meeting, Jan. 19th, 1885.—DR. E. J. Doering, President, *pro tem.;* Dr. Liston H. Montgomery, Secretary.

The Bacillus of Syphilis, and the Treatment of the Disease with Tannate of Mercury.—In microscopical sections from two syphilitic chancres and a syphiloma, Lustgarten had found bacilli which were perfectly characterized by their color reaction, their form, and their relative position. They were represented as little rods, straight or somewhat curved, slightly larger than the bacilli of tuberculosis, but of the same general appearance. They were found single or in small groups, inclosed in somewhat distended lymphoid cells, and, with powerful illumination, showed spots like those that Koch regarded as spores in the tubercle bacilli. Their staining properties made it possible to distinguish them from all other pathogenetic organisms, and the fact of their being always inclosed in cells would prevent their being confounded with putrefaction formations, etc. As the author alluded to had cultivated this bacillus, and as his results had been confirmed by Koch, it would seem that the evidence was sufficient.

In regard to the treatment of the disease with the tannate of mercury, the first trials had been made by Kaposi, nearly a year ago, and the results had been so remarkable, and the advantages so great, that the drug was now freely used in Germany. It was a tannate of the protoxide, was without odor or taste, and

was soluble only when decomposed. It contained about fifty per cent. of metallic mercury. Hydrochloric acid made no sensible impression on it; it was easily dissolved in nitric acid; very dilute alkalies, such as solutions of ammonia, caustic potash, or an alkaline carbonate, reduced it to a sort of magma, composed of very small particles of metallic mercury. Its rapid absorption into the system was proved by an abundant mercurial precipitate found in the urine shortly after it was administered. It was given in nearly all forms of syphilis—recent as well as inveterate eruptions and gummy deposits. Dr. Zeisler had himself seen the patients, whose cases had been reported in one of the Vienna journals, and could testify to the results. Six of the cases were primary eruptions, three were gummata, two showed small papules and large pustules, and one was a case of relapsing secondary syphilis. A rapid diminution of the lesions would be observed in the course of a week or two, and in three or four weeks they would have entirely disappeared.

The author then alluded to a case that he had under treatment lately, that of a man who had contracted a chancre last June, at which time he received treatment by another physician. In six weeks the roseola appeared, together with various other manifestations. A number of remedies were used internally, and external treatment was employed, until September 14th, when the patient first consulted him. At that time there was a widely diffused maculo-papular syphilide. As it was impossible to obtain any of the tannate of mercury then, mercurial frictions were used until September 19th, but from this latter date until October 5th, the patient took four grains and a half of the tannate daily. The eruption had then entirely disappeared, and only a few spots of pigmentation could be seen; there was no sign of salivation. The use of the drug was con-

tinued until the 1st of November, and the patient was then discharged cured.

The remedy was usually given in doses of about a grain and a half, with four or five grains of sugar, three times a day, an hour after meals. When thus given, it was rare for it to produce any sign of salivation. The alkaline carbonates, and considerable quantities of mineral waters containing such salts, should be avoided by patients, who were taking the remedy, for they decomposed it; and iodide of potassium should not be given at the same time, as the production of a large amount of iodide of mercury would be the result. The writer had never seen any disagreeable symptoms of mercurial poisoning produced while the drug was being used, nor any irritation of the bowels, even when its use was continued for weeks in such large doses as six grains daily, and he had seen about twenty cases so treated. If the bowels became loose, one sixth of a grain of opium could be added to each dose. While this new remedy might not produce a revolution in the treatment of syphilis, it deserved to be classed among the best that had come into use.

Dr. G. C. Paoli asked with regard to the use of the drug in the tertitiary form, where the bones were involved, and stated that its employment had been suggested as early as six years ago in some of the foreign journals. The main remedies that he relied upon were iodoform for chancres, and afterward fumigations and the use of the red iodide of mercury in small doses, and he had yet to see his first case of salivation from that treatment, which he could not say of the green iodide. He sometimes found it necessary to use a little opium or hyoscyamus, to prevent irritation of the bowels. The tannate might have astringent properties, and, if it had, it might be very good for children. Where the bones were affected, he thought iodide of potassium, in doses of fifteen, twenty, or thirty

grains, was unequalled as a remedy, but the disease was one in which we could not say that any remedy was the best, for there were special idiosyncrasies in some cases. Regarding the micro-organisms of syphilis, Dr. Saunders had discovered them ten years ago, but he had been ridiculed for his ideas, and had desisted from further investigations in htat direction.

Dr. Robert Randolph had seen pathological specimens from syphilitic persons. He prepared slides, purporting to contain bacilli, at least three years ago, but it had then been concluded that there was nothing in the supposed discovery.

Dr. Zeisler thought that Dr. Paoli must be mistaken about the alleged discovery of syphilitic bacilli ten years ago, for certainly nothing was known about coloring or cultivating bacilli until within the past few years.

A New Method of Counting a Rapid Pulse was the title of a short paper by Dr. A. E. Hoadley. The method consisted simply in counting every alternate pulsation and multiplying the number by two. On the first trial one would probably fail to make an accurate count, but with a little practice the knack was soon acquired, and the acquisition might be hastened by practicing on the tick of a watch.

Obstruction of the Ileum by Peritoneal Adhesions; Death.—Dr. Hoadley also reported the following case:

A man, thirty years old, apparently in good health, was attacked very suddenly, in the night, March 14th, with severe pain in the abdomen, opposite the umbilicus. It continued for five or six hours, from the effect of remedies, as was supposed. After a few hours it returned and again subsided. With some variation in the frequency and severity of the paroxysms, it continued up to the time of his death, four weeks from the time of the seizure. Soon after the onset he began to suffer with vomiting of a very distressing nature, but in time this

became more passive, although it continued from day to day to the last. At times he vomited simply what he had swallowed, but at other times, and especially during the first two weeks, the vomiting was stercoraceous. For three weeks the temperature did not exceed 100° F., and most of the time it was about normal, while the pulse ranged between 75 and 85, but gradually grew weaker, and during the last few days was very rapid and scarcely perceptible at the wrist. There was no tympanites, and but very little tenderness. Much of the time the abdomen was quite flat and had a doughy feel, but during the paroxysms it became as hard as a contracting uterus during labor, although there was no muscular rigidity or increase of tenderness. During the intervals gentle kneading would reproduce the tense condition without producing pain. This state of things was most marked during the last week of the illness, at which time the patient was much exhausted, with his voice husky, his skin of a leaden color, and presenting a general pinched and emaciated appearance. The pains had then lost their severity, a sense of suffocation with general numbness being produced instead—as he described it, it felt as if his stomach was being crowded up under his ribs. Throughout the case, except on one day, there was no voluntary passage from the bowels, although before the attack they had been soluble and very regular. With the aid of injections and laxatives, a few small, elongated lumps of fæcal matter, never exceeding three-eighths of an inch in diameter, were passed every day or two. At the end of the third week, however, there was a slight diarrhœa for one day only. Throughout his entire sickness, even in the absence of pain, he was restless and weary, and never slept more than an hour at a time.

Treatment was of little avail. Opium and chloroform were the principal remedies used; they retarded the vomiting

and pain, but controlled neither. Many other remedies were tried, and the case was treated from every possible standpoint, except that of surgical interference; there seemed to be no time when an operation was admissible. Rectal alimentation appeared to give good results. Dr. J. D. Skeer and Dr. C. W. Earle were called in consultation, and confirmed the writer's early diagnosis of mechanical obstruction of the small intestine, probably at the ileo-cæcal junction. The patient died on the twenty-eighth day. The autopsy revealed many peritonieal adhesions and bands of long standing, which were very firm, binding the ileum down into the pelvic cavity. One of them was firmly attached to the anterior abdominal wall, midway between the umbilicus and the middle of Poupart's ligament on the right side. At its attachment it was about one-fourth of an inch thick and three-fourths of an inch wide. It then spread downward to the left side of the pelvic cavity, where it was firmly adherent, from the brim far down upon the inner wall, becoming fasciculated and embracing the folds of the ileum between the fasciculi, furnishing a band that held the larger mass of the small intestine in the pelvis. On dividing these bands and removing the intestines, they were found everywhere bound together by adhesions; but there was not the slightest evidence of recent inflammation of the peritonæum, although the intestine itself was inflamed and very much softened for a distance of about four feet, extending to within twelve or fourteen inches of the ileo-cæcal junction. There was no evidence of previous disease of the intestine.

Eight years before the patient had been treated by the writer for typhoid fever, which ran a moderately severe course, and ended in recovery. A most interesting point about the case, as it now appeared, was the fact that at times he had a moderate peritonitis, which in all probability had given rise to the adhesions.

Dr. A. Leigh would like to know how the tense condition of the abdomen took place without muscular contraction.

Dr. F. Carey asked if there were any adhesions below the ileo-cæcal valve.

Dr. Hoadley replied that the valve was normal. So, too, was the caliber of the whole length of the colon; the small size of the passages was in part due to the pelvis being full of intestine, so that the fæces were molded, as it were. Regarding the tense condition, there was a spasmodic contraction of the bowels, which was uninfluenced by the will.

At the regular meeting of this Society, held on the evening of February 2, 1885, Dr. Boerne Bettman read a paper entitled "*Peroxide of Hydrogen in Aural and Ophthalmic Practice.*" The essayist remarked that the antiseptic measures introduced by Lister had been applied in aural therapeutics, and marked an era of rational medication in otology. Carbolic acid, although highly satisfactory as a cleansing agent, could not be applied as a germicide, a 5 per cent. solution not being tolerated by the sensitive mucous membrane. The boracic acid treatment of Bezold, therefore, immediately found many advocates; it has well sustained the severe tests to which it has been subjected. Happy results have also been achieved with bichloride of mercury and iodoform. A remedy equally efficient, and very useful in cases where the others have failed, is the peroxide of hydrogen, discovered by Thenard in 1818, and introduced into medical literature by Dr. B. W. Richardson, of London, in 1855. It soon fell into disuse, to be entirely forgotten, but it has lately been reclaimed by the unceasing labors of Dr. Coffin, several Parisian surgeons, and by Dr. W. A. Harlan, of this city. It has been principally employed by

dentists in the treatment of alveolar abscesses. But few allusions have been made to it in ophthalmic and aural literature. The usual method of preparing pure peroxide of hydrogen, is by decomposing peroxide of barium with hydrochloric acid. It is a highly prized antiseptic. In a pure state it is a colorless, syrupy liquid, of a slightly bitter taste, and possesses a faint odor of chlorine. Its specific gravity is 1.455. It is a highly unstable compound, decomposing rapidly when exposed to air, and liberating its oxygen. It owes its value as a therapeutic agent to this property. M. Miguel, of the Observatoire de Montsouris, in his comparative table, presenting the relative value of the various antiseptics, places peroxide of hydrogen at the head. The writer then related his observations, made with the microscope, of the action of dioxide of hydrogen upon pus. The pus corpuscles and bacteria are put into lively motion, when a drop of peroxide is allowed to flow under the covering glass. Small gas bubbles, the liberated nascent oxygen, are now evolved. The pus corpuscles gradually lose their spherical shape, shrink, assuming a crescentic form, and are heaped together, a mass of detritus. The bacilli are affected in a similar manner. In a few seconds they are transformed into a dead mass, intermixed with the decomposed pus corpuscles, and surrounded by seething bubbles of gas. The therapeutical action of peroxide of hydrogen has been explained as follows: when it comes in contact with pus, the extra O it contains is liberated so rapidly that the hydrogen and sulphur of the tissues immediately combine, resulting in H_2SO_4 in small quantity, sufficient to glaze the pus-producing area, thus affording an opportunity for the exuding protoplasmic material to organize into new tissue. The remaining unsatisfied atoms of O quickly distend the pus-sac and force out the contents. He had used the remedy in

more than thirty cases of otitis media purulenta, and employs a preparation sold by chemists containing 12 volumes of the gas, as follows: the parts are thoroughly cleansed with warm water, and then dried with absorbent cotton, after which 8 to 12 drops of the remedy are instilled into the ear. Contact with pus and diseased tissues sets free the oxygen visible as bubbles, which, united with the expelled pus, forms a seething, frothy mass. Patients rarely complain of pain. After cleansing the parts, the mucous membrane is seen to have assumed a milky white appearance. The liberated gas enters the most hidden recesses of the middle ear, forcibly dislodging the decomposing material, and destroying bacteria embedded in the tissue meshes. If the perforation is small, the remedy can be injected directly into the middle ear. It had also been successfully employed in the treatment of dacrocystitis, and in one case of chronic trachoma which had run its course, but where there still remained a mucous discharge. Several (5) cases of dacrocystitis yielded only to the peroxide of hydrogen, after having been subjected to the routine medication with astringents, carbolic acid, introduction of Bowman's probe, and gelatine bougies.

In the discussion, Dr. R. Tilley stated that he had seen the peroxide of hydrogen solution used in Paris by Palse as a spray in ovariotomy, and also by Landolt in dacrocystitis, but he saw no manifest advantage from its use that should entitle it to a position of preference over certain well-known and well-tried remedies, among which he mentioned permanganate of potassium solution. In observations with the preparation, it was of considerable importance to adhere to the tendency of the most careful workers of the day, and ascertain to just what factor of the peroxide solution the alleged virtue was attributable. It is a fact that the peroxide of hydrogen solution is rendered more

permanent by virtue of an acid; and the acid used is sometimes hydrochloric, and sometimes sulphuric acid is used, the former being more generally selected at the present time. The quantity of acid used is very small; but small as it is, it may have considerable influence. It should always be ascertained by the person using it which of the acids is used to facilitate the solution of the peroxide, as minute quantities of sulphuric acid may have very deleterious effects in certain cases. The best test for the presence of the peroxide in solution is a crystal or two of permanganate of potassium.

Dr. W. W. Allport stated that he had used this remedy in alveolor abscesses and pulpless teeth. On filling a cavity of a tooth with the solution, effervescence occurs and assists the cleansing of the cavity.

Dr. J. S. Marshall has treated burrowing abscesses when, for obvious reasons, he did not wish to make an external opening. By injecting a solution freely into such a cavity, the relief was much more rapid and satisfactory than with other agents he had used.

Dr. G. Newkirk has used it in cases which were not blind abscesses, and obtained satisfaction. He found it difficult to obtain the substance reliable, and to keep it good.

Dr. Bettman concurred with the last speaker that it does not keep well, and that it is of importance to obtain a reliable article. He felt sure that its effect on pus was due to the liberation of oxygen when it comes in contact with pus and its associated products.

Missed Abortion was the title of the next paper, by Dr. P. O'Connell, in which he related a case, notes of which cover a period of two years. The patient was twenty-six years old, and had one child, two years old. Three months after her last confinement the catamenia appeared. This function continued

to come on regularly for several months, when it ceased. In addition, the other usual symptoms of pregnancy were present. Three months from the commencement of pregnancy the patient fell, striking rather heavily on her hands and knees. A slight sanguineous vaginal discharge, lasting a few hours, followed the fall. After this the abdomen, which had been enlarging, slowly diminished to its normal state, and her health slowly but steadily deteriorated. She had almost constant aching, with occasionally a severe pain, and a sensation of the limb "going to sleep" was felt in the left lower extremity. She could not lie on the left side.

Careful palpation of the hypogastrium gave no evidence of uterine enlargment. The left vaginal region was tender on deep pressure. On vaginal examination, the finger met the uterus fully one inch lower than normal, with the os and cervical canal so patent as readily to admit the index finger. The anterior segment of the cervix was thickened. Upon bimanual examination, the uterus was found to be somewhat enlarged, but not sensitive.

The sound penetrated to a depth of 2½ inches, and to the left. There was no hyperæsthesia of the vagina, although its mucous membrane was congested. The cervix was also congested and bled freely and readily. Ergot and strychnia were prescribed, and soon after the first dose was taken uterine contractions set in, resulting in the expulsion of the mass, which was greatly decomposed and abominably ill-smelling. It had doubtless lain in utero for three months. Upon closely questioning the patient, she said that during August, which was extremely hot part of the time, she frequently felt so cold at night as to require heavy bed coverings to keep warm. That she had frequent chills, and once had what would seem a rigor. These symptoms, with itching, an erratic rash on the

skin of the lower abdomen and back, together with malaise and slowly increasing debility, clearly pointed to the absorption of septic matter from the cavity of the uterus. The pain in the left lower extremity was due to the dead weight of the uterus on the branches of sacral plexus of nerves. The specimen was then exhibited, which presented a mummified appearance and consisted of the placenta and two fœti.

Muriate of Apomorphia in Chronic Bronchial Asthma, with a report of two cases, is the subject of a paper read by Dr. G. W. Webster.

CASE 1. Mr. G——, English, 34 years of age, married, carpenter, has suffered from bronchial asthma for more than one year. He has been a resident of the United States about two years and three months. During the past summer, especially at night, he suffered greatly from this difficulty. When first called to attend him, in December last, he was suffering from asthma and severe attacks of spasmodic coughing spells, and he had been for some days confined to his bed. Gave him remedies to overcome the difficulty, which did not in some respects afford him the least relief.

Apomorphia per os in gr. 1-20 every three hours, was given him. And the following morning the patient stated that he passed a comfortable night. The remedy was then increased to 1-10th gr. ter die, and the second night he slept well and rested comfortably from this time on whilst taking the drug. It was then discontinued; but the attacks recurred, however, with much less severity. The remedy was again renewed and with entire relief. It was then given him for two weeks, during which time he was up and about and able to follow his trade.

It is now four weeks since he ceased taking the drug and there has been no return of the disease.

CASE 2. Mr. B——, aged 58, laborer, has had chronic bronchitis with asthma every winter for twenty years. When called to see him in January, found him suffering greatly from dyspnœa; rales were present over the entire chest, and his face and hands were cyanosed, and he was gasping for breath. Gave apomorphia in 1-20 gr. doses every three hours, and the subsequent day he was considerably relieved and could breathe freely. The remedy was continued a few days longer with continued relief to the patient, since which the writer had not seen him.

D. C. T. Fenn referred to a mismanaged case of "*frost-bite*," and alluded to the ill usage of two of our most efficacious remedies, viz., ice and heat, by their being wrongly employed.

The society then adjourned.

Meeting of February 16, 1885.—The President, Dr. D. A. K. Steele, in the chair.

Malignant Disease of the Thyroid Gland.—Dr. C. E. Webster reported the case of a woman, sixty years old, whose general health was quite good, but who first noticed an enlargement of her neck about a year before she first consulted him. It began in one lobe of the thyroid, and extended rapidly to the adjacent glands and tissues of the neck. When she was first seen, swallowing was difficult and her voice was husky, although her breathing was not impeded. The thyroid gland, the larynx, the trachea, and the neighboring cervical glands formed an irregular doughy mass. The diagnosis lay between tertiary syphilis and cancer of the thyroid, but it was made easy by the history of the progress of the growth from an enlargement of the thyroid, and by the fact that such growths after middle life were almost invariably malignant. The

steady progress of the disease under a short course of anti-syphilitic treatment confirmed the diagnosis, and the patient had recently died of exhaustion. The microscopical appearances of such growths were sometimes peculiar, hardly differing from those of benign tumors of the same organ, so that it was often difficult to decide upon the nature of the neoplasm from those appearances alone. A case in point was cited from the service of the Massachusetts General Hospital, in which the alveoli were lined with cuboid cells and filled with a homogeneous substance.

Dr. F. Cary asked where the cells were in the latter case, if the alveoli were filled with a homogeneous substance.

Dr. L. H. Montgomery asked about the dimensions of the tumor, whether it extended uniformly in all directions, and if the speaker had any theory as to the functions of the thyroid. Might not the organ be situated over the trachea for purposes of protection, or did it act as a sort of reservoir, like the spleen?

Dr. E. J. Doering asked if removal of the mass would have been justifiable.

Dr. Webster stated that, in the hospital case referred to, the lumen of each alveolus was filled with a homogeneous substance, and the cells were arranged peripherally. When he first saw his own patient the disease had progressed to such a stage that, had an operation been undertaken, it would have been impossible to complete it, as the deep tissues of the neck, including the œsophagus, were involved in the growth. The tumor of the thyroid was as large as half a hen's egg, and a doughy mass extended in all directions. He had no theory to offer as to the function of the thyroid gland.

Tape-Worm in a Child.—Dr. C. G. Davis read a report of a case of *Tœnia solium* in a child two years old, and showed

about four inches of the worm, including the head. On the 10th of December, when he first saw the child, it had not quite recovered from an attack of entero-colitis that had lasted through the summer and autumn; it still occasionally had the usual symptoms of "summer complaint." A number of simple remedies were given, together with raw beef, and this treatment seemed to be effectual, but portions of tænia soon began to appear in the discharges, and half a teaspoonful of a French preparation of pelletierine was given, followed in an hour by twenty drops of tincture of jalap and a teaspoonful of castor-oil. This was followed by the expulsion of three or four yards of the worm, but the head was missing. The child was then carefully nursed, and its general health looked after, when segments of the worm again appeared in the evacuations. A double dose of the pelletierine, jalap and castor-oil was then given, and several feet more of the worm were discharged, including the head, which was now exhibited.

Dr. Doering alluded to three cases of tænia that he had treated in children, the youngest of whom was only six months old and had been fed on raw beef while sick with entero-colitis. He was surprised at the results that had followed the treatment in Dr. Davis's case, for he himself had used much larger doses of pelletierine, with only partial success.

Hygroma of the Tongue.—Dr. Josef Zeisler related the case of a girl, nine years old, the right side of whose face was much more developed in its osseous and muscular formation than the left side. The surface of the tongue was covered with cysts, varying in size from that of a pin-head to that of a pea, and there was a collection of like vesicles on the mucous membrane of the right cheek, near the angle of the mouth. There was also a crested formation running along the middle line of the dorsum of the tongue, of a caruncular appearance. The

movements of the tongue and the faculty of speech were not impaired. The speaker regarded the case as one of colloid degeneration of the mucous membrane, but he could not classify it precisely, having never seen another like it. The only treatment suggested was galvano-puncture of the cysts. A microscopical examination was not allowed. Dr. E. Andrews, Dr. C. T. Parkes, Dr. J. N. Hyde, and several other well-known physicians had seen the patient, but none of them had seen a case of the sort, and they could make no further suggestion in regard to treatment. Two like cases were to be found in the literature of the subject.

The Comma Bacillus.—Dr. L. L. McArthur showed specimens of Koch's cholera bacillus. He considered that, thus far, Koch had successfully met all opposition to his theory of the causal relation of the bacillus to Asiatic cholera. The specimens shown were from Koch's laboratory, having been sent by Dr. Betz, of Tübingen, to Dr. Doering.

Meeting of March 2, 1885.—The President, Dr. D. A. K. Steele, in the chair.

Mollities Ossium.—Dr. W. J. Webb read a paper on this disease, embodying an elaborate account of the case of a man, a native of Pennsylvania, some of whose brothers and sisters had had symptoms more or less like his own, so that an hereditary element might have entered into the causation of the disease. He had led a life of vicissitudes, having been at different times a wood-chopper and a miner; had been a masturbator from the age of eight years; had at times been a hard drinker; was supposed to have had syphilis; and perhaps had been poisoned by drinking arsenical water while engaged in mining. He had also suffered from tape-worm. Toward the close of his life

his body became very much distorted; he was at one time unable to move any part of his person except his right hand, he was cyanosed, and on several occasions his temperature was subnormal.

At the post-mortem examination, the body was found so shortened and flattened as to resemble that of a frog; yet it was six or seven inches longer than it had been before death. It was excessively emaciated, and the skeleton was distorted in various ways. After being subjected to a stretching process, the entire length of the cadaver was fifty-five inches. The left femur measured eleven inches, the right one eleven and three quarters; the left tibia fourteen inches, and the right one thirteen and a quarter; the sternum six and a half; each humerus eleven; and the left ulna nine, and the right one ten. The heart was situated in the median line, and the pericardium extended up to the second rib. The head was at least an inch and a quarter smaller in circumference than it had formerly been. The vault of the cranium was nearly as flexible as a moderately distended foot-ball. The bones of the face had suffered least of all, but they had been tender to the touch before death, and some of the teeth had become loose. The clavicles were enlarged, elongated, and curved decidedly downward. The sternum was but little affected; the manubrium, together with the sternal ends of the clavicles, extended upward and forward, while the gladiolus pointed upward and slightly backward, which made a decided curve posteriorly. In the latter third of the shafts of the ribs nearly or quite all the proper bone substance was wanting, and the periosteum was folded upon itself. Altogether, the condition of the chest-wall was such as to have caused great compression of the organs within, and for at least six months before the man's death his breathing had been largely diaphragmatic.

The vertebral column was enlarged, and, while its natural curves were increased, there was also a decidedly sharp lateral curvature to the right in the dorsal portion, together with a slight curve to the left in the lumbar portion. The innominate bones were nearly at right angles with the horizontal plane of the pelvis. The ilia were crowded inward, while the ischia were directed outward and the sacrum was turned forward, and the pubes slightly backward and downward. This position of the pelvis, together with the eversion and outward curvature of the femora, was suggestive of the ancient lyre. The upper limbs presented nothing of special importance, except that they were small and so soft and flexible that they might easily have been tied in a knot. On section of the femur, only a trace of bone substance was seen adhering to the inner surface of the periosteum; as the head of the bone was approached, the cancellated structure was more characteristic, but even here it could easily be cut with an ordinary scalpel. When the periosteum was cut into, a considerable quantity of sero-sanguineous fluid escaped that completely enveloped and seemed to permeate the liver-like substance which had taken the place of the medullary canal and the greater part of the shaft of the bone. In the trochanters there was an augmentation of soft cancellated substance containing a large deposit of fat. The neck of the bone was shortened, and the great trochanter extended above the articulation with the acetabulum.

The reader then gave a summary of the treatment to which the man had been subjected, and suggested that, when practicable, a water-bed should be used for such patients, while something might perhaps be done with an apparatus for making extension and preserving the proper shape of the thorax—possibly with plaster of paris. According to an old author (who was quoted at length), cases of osteomalacia might be divided

into three classes: 1. Those due to carcinomatous or sarcomatous disease of the medulla. 2. Those due to an affection of the medulla, allied to lymphoma. 3. Those due to some peculiar condition of the medulla, or perhaps of the blood, dependent on the pregnant state. The reader thought that hereafter the nervous system would receive more attention than it had received hitherto in connection with this disease.

Dr. C. E. Webster asked if the reader, in his study of the disease, had been able to distinguish it sharply from fragilitas ossium. It seemed to him that the two were often confounded. He doubted if any form of support could have been devised that would prevent the deformity of the thorax.

Typhoid Fever and its Hygienic and Specific Treatment was the subject of a paper by Dr. David O'Shea, which was illustrated by the histories of a number of cases. Foul air and contaminated drinking-water were not always the cause of the disease, but he believed that there was a specific enteric bacillus yet to be discovered. Klebs had already professed to have identified the bacillus, and to have found it in the blood, in the lymphatics, and in the tissues, but this needed confirmation. It was very rare for the disease to occur in a person far advanced in years, but the individuals of certain families were prone to suffer from it in a severe form, so that there was reason to apprehend a formidable attack when a parent had died of it. When we were called to a suspected case, therefore, we should first consider the patient's family history, then his personal history, and finally his actual condition, with regard to their bearing on the prognosis.

The principles of treatment were generally accepted and well understood, and success would depend greatly on their intelligent application to individual cases and on careful attention to details in every stage of the disease. Whenever it was possi-

ble, he had the patient's bed placed so that, occupying a large, airy room, with the doors or windows open more or less continuously, according to the state of the weather, it could be approached from either side. The bed should be firm and comfortable, and, if practicable, one should be occupied during the day and another at night. The covering should be light, but sufficient to protect the patient against changes of temperature. The body should be sponged night and morning with tepid alcohol and water, and during the height of the fever the face and hands should be sponged frequently during the day. If the temperature rose above 103° F. in the morning, and above 104° in the evening, the wet pack should be applied to the chest and an ice-bag to the head, and a mustard foot-bath three times in the twenty-four hours would prove very grateful and efficacious. The bed-pan should always contain about one-third its capacity of water with a teaspoonful of a twenty-five per-cent. solution of carbolic acid added to it, and this should be renewed every time the vessel was used. In summer the evacuations should be buried, but in winter they could be thrown into a water-closet. No one should occupy the same bed with the patient, nor, if it could be avoided, the same room, and only those who were advanced in years should act as nurses. In all the cases related, this hygienic treatment had been followed, together with the specific treatment laid down by Liebermeister, Traube, Wunderlich, and others, consisting in the administration of ten grains of calomel at a single dose the first day the fever was recognized, and eight grains a day for three or four days afterward, or according to the condition of the bowels. It was a fact that these large doses of calomel had an antipyretic effect in every case, and, with this remedy, the writer could bear testimony to the efficiency of the specific treatment in cutting the disease short and less-

ening its mortality. The longest duration of the disease in any of his cases was twenty-six days, and the shortest fifteen days. The complications were few and of short duration; only one of the patients became delirious, and in that case the disease had not been recognized until the beginning of the second week, so that several days had elapsed before any calomel was given. Whether or not this fact was the cause of the delirium, he would not undertake to say—he merely mentioned it. The same patient was sick the longest time, and had the most copious evacuations. The true value of this specific plan of treatment could not be arrived at from such a limited number of cases, but he could recommend its further trial.

Dr. G. C. Paoli thought we could rely on nature in light cases, and that such cases served to explain the temporary popularity of the various specific plans of treatment that had sprung up at one time and another and been abandoned. He had seen cases run their course in eight, nine, or ten days, and he had seen others continue for twenty, twenty-five, thirty, or forty days; again, he had seen the disease in a malignant form go on to a fatal termination speedily. He relied a good deal on nourishment and careful nursing. He thought there was danger in the plan of using two beds, as suggested by the author, for, when Peyer's glands were inflamed, or when their cicatrization was incomplete, moving the patient from one bed to another might lead to trouble. The diarrhœa of typhoid fever could not be stopped, but we could control it within certain limits. He did not believe that there was such a thing as a typhoid-fever bacillus, or that one would ever be discovered. He gave but little quinine in the disease, and had seen two patients die from the administration of forty grains of the drug during an attack.

Dr. C. G. Davis was glad to see prominence given to the

hygienic plan of treatment; formerly, under the notion of scourging the disease out of the system, too much medicine had doubtless been given. His observation had been that the mortality varied in different years and in different localities; he had seen it as high as twenty per cent. and as low as four per cent. A favorite piece of medication with him was to give a twenty-fourth of a drop of tincture of nux vomica and a sixth of a drop of tincture of aconite-root every four hours; this lessened the tendency to irritation of the gastro-intestinal mucous membrane, and he did not regard it as homœopathic.

Dr. C E. Webster usually followed the expectant plan. He sometimes ordered brandy in teaspoonful doses, as occasion required.

Dr. R. Randolph gave a minute description of his method of applying cold water. An oil-cloth was placed under the patient, after his night-shirt had been pulled up over his head, and then cool water was pressed out of a sponge over the surface of the body. The oil-cloth was easily removed when the process was over. He had never seen quinine reduce the temperature; on the contrary, he believed that it acted as a cardiac depressant.

Dr. G. W. Webster could speak of cold baths from personal experience, having had typhoid fever himself. The baths that he was subjected to produced very severe shock, so that, after having had two or three of them, he had refused to submit to any more. Moreover, they did not reduce his temperature more than a tenth of a degree. Sponging with tepid water, however, was such a pleasure that he looked forward to it eagerly. He was given large doses of quinine, which so weakened his heart that he did not recover from the effects for as much as a year. He had seen salicylate of bismuth used very successfully in a number of cases.

Dr. Randolph remarked that more attention was now given to the temperature than to the pulse, and that the observation of the pulse was getting to be one of the lost arts.

Dr. G. W. Webster called attention to the secondary dilating action of cold upon the superficial capillaries, and instanced the burning sensation felt in the hands soon after handling snow or ice.

Dr. Angear doubted if this observation would apply to the moderate cold that was used in the treatment of fevers.

Dr. G. Newkirk did not think it necessary to apply cold to reduce the temperature. The warm pack imparted a pleasant sensation of quiet and rest, and kept the skin active, which was an essential point in the treatment.

The paper was further discussed by Dr. R. E. Starkweather, the President, and Dr. O'Shea.

LISTON H. MONTGOMERY, M. D., *Secretary.*

FACTS SERVING TO PROVE THE CONTAGIOUSNESS OF TUBERCULOSIS; WITH RESULTS OF EXPERIMENTS WITH GERM TRAPS USED IN DETECTING TUBERCLE-BACILLI IN THE AIR OF PLACES OF PUBLIC RESORT, AND A DESCRIPTION OF THE APPARATUS.

By W. H. WEBB, M. D.

[Read before the College of Physicians of Philadelphia, February 4th, 1885.]

It is in accord with the spirit of the age to attempt to get at the root of all things affecting the health of our race. The causes of tuberculosis and influences modifying the progress of the malady claims not only the active interest of those engaged in the field of scientific medical investigation, but the attention of every mind that fully appreciates the universal prevalence and immense mortality resulting from the scourge consumption. It may add somewhat to the interest, if not to

the elucidation, of this subject to trace the progress of thought springing from the observation of clinicians of all ages. By collecting the expressions of the *master-workmen* of different times, we will see that knowledge upon the subject has been steadily progressive, and that what now seem to be proven facts, have been preceded by flashes of truth in almost every epoch of medical history. The discovery of the tubercle-bacillus was not drawn from the inspiration of genius, but from the shaping of clinical facts gathered in the progress of our art, from the time of the Father of Medicine until the day that Koch discovered a peculiar microbe in tuberculous patients.

The word tubercle was used by Hippocrates,[1] but he applied it principally to designate small external tumors—phymatæ—as hordeolum, furunculus, sycosis, anthrax, wheals, etc. It is said that the word was used by Celsus, about A. D. 20, but no special meaning was attached to it by him.

Franciscus Delebœ Sylvius, who lived between 1614 and 1672, was not only a strong advocate of the doctrines of Hippocrates, but also did much to advance the knowledge of this disease. He was the first to use the word tubercle in designating the hard nodules found in the lungs of the phthisical. He was also the first to speak of the formation of cavities and destruction of the lung tissue by the softening and breaking down of these hard masses. He describes three kinds of consumption—one of the blood; one of the lungs, occasioned by bad nutrition; and one of degenerated glands. Through this latter proposition he may be regarded as the originator of the theory of a relationship between consumption and scrophulosis. "He believed that in the predisposed the disease my be excited by contagion."[2]

1 "The Genuine Works of Hippocrates." Published by the Sydenham Society. London, 1849.

2 Quoted in "A Practical and Historical Treatise of Consumptive Diseases." By Thos. Young, M. D. 1815. p. 178.

As a result of autopsies made by Willis, and also by Bonetus, about from 1640 to 1670, the subject of phthisis was very much advanced.

When Richard Morton's[1] celebrated work appeared, the opinions set forth therein were not only greatly in advance of those of his own time, but were destined to supplant all others, and to be accepted as correct for more than one hundred years after his death. He asserted that all consumption originated through tubercles, and that they gave rise to the dry cough. The idea entertained by Hippocrates, that consumption was due to inflammation and ulceration, he strongly opposed. He also declared that he believed the disease to be propagated by infection. "For," said he, "this distemper—as I have observed by frequent experience—like a contagious fever, does infect those that lie with the sick person with a certain taint." (p. 67.)

Desault[2] also insisted that tubercles were the essence of consumption, and that ulceration of the lungs and hæmoptysis were the result of the deposit. He believed in the contagiousness of the disease when ulceration had occurred. A statement, which at this day seems to have been almost prophetic, occurs in his writing upon Tuberculosis: "Worms," he declares, occasioned by the putrefying lungs, "propagate the disease and cause it to spread."

From the time of Morton to 1793, the subject of tuberculosis commanded the attention of some of the most distinguished men in medicine. (Sydenham F. Hoffman, Boerhaave, Van Swieten, Sauvages, Morgagni, Cullin, Hufeland, Portal, Stark, Ruysch, Stahl, Reid and Baumé.) At this time Baillie's

1 "Phthisiologia, or a Treatise of Consumption." 2d Ed. London, 1694.
2 Quoted by Thomas Young, M. D. Loc. cit.

great work appeared,[1] in which he demonstrated the existence of tubercles in other organs besides the lungs.

Bayle,[2] an independent worker as well as thinker, insisted most strenuously that phthisis is a general chronic disease, and owes its origin to a special principle—the tuberculous. He, too, denied most positively the teachings of Hippocrates, that consumption was due to inflammation and ulceration. To him is due the credit of discovering what is now known as miliary tuberculosis. "Out of nine hundred autopsies performed by him, he found 624 had tubercular phthisis, 185 the granular or miliary tubercle, 72 melanotic, 14 ulcerous, 4 the calculous, and 3 the cancerous." He says further: "This disease appears always to depend on a peculiarity of constitution. Hæmoptysis is a frequent symptom of consumption, and is sometimes mistaken for its cause; but it often happens that when hæmoptysis has been fatal, the lungs are found full of tubercles."

Laennec, who followed Bayle, declared that all consumptions, including scrophulosis, were nothing but the consequences of the tuberculous specific principle, which might be inherited or be acquired. In demonstrating his theory he made use of auscultation, which it is said he originated, in accurately determining the diseased condition of the lungs. Laennec's views in regard to the pathology of consumption, notwithstanding he had very strong opponents among his colleagues, were held for a long time. Schönlein, in the main, held with Laennec, but differed most positively with him in making a marked distinction between tuberculosis and scrophulosis. At this times scores of eminent investigators were busy with this sub-

1 "Morbid Anatomy." London, 1793.

2 "Recherches sur la Phthisis." Paris, 1810, p. 66. Quoted by Dr. Young. Loc. cit., p. 452.

ject, and the confusion of ideas that then existed occasioned the promulgation of many widely divergent theories; thus were described tuberculization of pus, tuberculous pus, gray tubercle, yellow tubercle, gray infiltration, tubercle granules, tubercle corpuscles, granulosis, albuminous tubercle, etc., etc. Indeed, the number of forms assumed by this disease was limited only by the number of writers upon it. This tended to give to the simplicity of the theories advanced by Laennec a great attraction to many, who held to them for sheer comfort of mind. Out of this dire confusion a way was opened by Virchow, whose cellular pathology gave us a positive science by which the theories of previous writers were exploded.

In the early part of 1882 Dr. Robert Koch made his name immortal by giving to the world the result of the researches and experiments[1] by which he swept away all false ideas that existed in regard to tuberculosis for a period of over two thousand years. It was then that he made the announcement that "tuberculosis is a specific, infectious disease, caused by a specific micro-organism—the bacillus tuberculosis—which constitutes, in fact, the true tubercle virus." This statement is one of the most remarkable, in its import, in the history of medicine.

Koch reached this position by the results obtained from experiments made with the tubercle-bacilli which he had artificially cultivated. He prepared a nutritive substance and introduced into it a speck of pus taken from a tuberculous human lung. In this way he obtained a number of bacilli, with which he infected fresh material, and by frequent repetition of this process, which he carried on for many months, he succeeded in obtaining bacilli very many generations removed from those taken from the diseased lung. These cultivated bacilli were

1 Die Etiologie der Tuberculose. Berliner Klin. Wochenschrift, 1882, No. 15.

introduced into the circulation of healthy animals, and in every instance induced tuberculosis. Tubercles in large numbers were found in the lungs, liver and spleen of all the animals thus experimented upon.

The labors of the illustrious Pasteur, of France, and of Koch, of Germany, are now well known to us all. They are the leaders of a host of equally zealous investigators who have acquired more or less distinction through their efforts in this direction.

Villemin,[1] Buhl,[2] Bollinger,[3] Fraenztel,[4] Balmer,[5] Ruhl, of Bonn,[6] Lichtheim,[7] the late Professor Cohnheim,[8] Gaffky,[9] Ewald,[10] Ehrlich,[11] Kowalski,[12] Wilson Fox,[13] Cheyne,[14] Shakespeare,[15] Sternberg,[16] Ernst,[17] Colin,[18] Tappeiner,[19] Williams[20] and others, who form a legion of self-sacrificing, earnest and conscientious workers, banded together in the interests of science and of their fellow-men, and inspired by the hope of being able

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1 Gazette Med. de Paris, Dec., 1865. Also "Etudes La Tuberculose." Paris, 1868.

2 Lungenentzundung, Tuberculose und Schwindsucht. 1873.

3 Archiv. f. Experim. Pathologie, Bd. i. 1873. Also N. Y. Medical Record, March, 1884.

4 Berliner Klin. Wochenschrift, 1882, No. 45. 5 Ibid.

6 Medical Record, New York, May, 1883. 7 Ibid.

8 "Consumption as a Contagious Disease," London, 1880. Translation by H. D. Cullimore.

9 Report of the Imperial Health Office, Berlin, 1884. See Review of Amer. Jour. of the Med. Sci., July, 1884.

10 Med. News, Phila., Sept. 6, 1884, p. 275.

11 Deutsche Med. Wochenschrift, No. 19, 1882.

12 Wiener Medizinische Presse, Feb. 24, 1883.

13 Med. Times and Gazette, London, 1883, Vol. II, page 672.

14 Practitioner, London, 1883, Vol. XXX.

15 Proceedings of the Phila. Co. Med. Society, 1884, pp. 315, 320.

16 Medical Record, New York, Oct., 1884.

17 Amer. Jour. of the Med. Sci., Oct., 1883.

18 Med. Centralblatt, 1873, No. 30.

19 Virchow's Archiv, Bd. 82, 1880.

20 The Lancet, London, Feb. 24 and July 28, 1883.

at some future day to stay the progress of a malady which has been the occasion of more deaths than all the epidemics of disease, and all the disasters by land and sea, not only command the attention and support of the scientific world, but also the gratitude of every intelligent human being.

With a rapid but steady pace those observers are advancing on the road which will soon lead to the desired goal. The clouds of error are being dissipated by newly discovered truths, and to-day the subject of tubercular phthisis is better understood than ever before. It is my purpose this evening to bring to the notice of the Fellows of the College some facts by which, I think, the contagiousness of tuberculosis is clearly demonstrated.

Careful researches by De Quatrefages,[1] Cook,[2] Livingston,[3] Rush,[4] Budd,[5] and others, seem to prove that tuberculosis first appeared among the inhabitants of Europe, and gradually manifested itself in those parts of the world with which they had intercourse. If this is true, it is one of the best evidences of the contagiousness of phthisis.

A contagious or infectious disease can have but one cause, and this is eminently true of tuberculosis, which does not arise from a variety of causes, but is solely due to the tubercle-bacillus. Wherever this bacillus finds its proper nidus it will there develop and multiply; and, if this should be in living animals or human beings, the progress of the disease will be determined by the character and amount of food offered for the growth of this germ; thus with a nidus rich and plentiful we may have a case of acute phthisis lasting not more than

1 The Human Species, by A. De Quatrefages. N. Y., 1883, pp. 428, 430.
2 Ibid. 3 Ibid.
4 Medical Inquiries and Observations. Phila., 1789; p. 137.
5 The Lancet. London, 1867. Vol. II, pp. 451, 452.

thirteen days;[1] and, on the other hand, if the pabulum is poor and scant, the case may be a chronic one extending over a period of twenty-five years, such a case having occurred in my own practice.

The bacilli may enter the system through the lungs or by the stomach. The air we breathe, as well as the food we take, especially in the vicinity of the phthisical, may be laden with these germs. The air of the ventilating flues at the Brompton Hospital, when carefully examined, was found to contain tubercle bacilli in fair abundance.[2] The sputa of tuberculous patients drying upon our streets is ground into an impalpable powder by the feet of pedestrians, and is then disseminated through the air to be inhaled alike by the healthy as well as those predisposed to tuberculosis. Such sputa, mixed with the dirt of the street, have been collected, dried and powdered again, at frequent intervals during a period of several months. Guinea-pigs were then inoculated with this matter and in a short time the animals thus treated died of tuberculosis.[3]

To admit that the tubercle-bacillus is a pathological product is to express a belief in spontaneous generation,[4] and I feel sure that none of my enlightened hearers are prepared to subscribe to that doctrine.

It is asserted, by some pathologists, that other matter or ir ritant than the tubercle-bacillus is capable of producing the disease. This idea is not a new one, for Richard Morton says: "Chalky stones that are preternaturally bred in the lungs, or nails, or other hard bodies, slipping down into the

1 Medical Diagnosis, by J. M. Da Costa, M.D., LL.D. 6th Ed. Phila., 1884; p. 320.

2 The Lancet. London, July 28, 1883.

3 Med. and Surg. Reporter. Phila., 1884. Vol. I, p. 697.

4 Floating-matter of the Air. By John Tyndall, M. D. New York, 1882; pp. 277, 320.

lungs, when persons laugh, are to be recorded among the causes of a consumption of the lungs,"[1] and he narrates a case, p. 247.

It is also claimed by a number of writers that certain callings or occupations may be a cause of tuberculosis, owing to fine particles of dust inhaled by those employed. Thus coal miners, dry grinders, stone cutters, moulders, operatives in cotton mills, etc., are apt to have the disease. But those who believed that the dust breathed by individuals engaged in these occupations might occasion phthisis were evidently oblivious of the fact that the air carried, in the form of germs, far more potent factors; and while the dust may have produced an irritation of the air passages, the presence of the tubercle-bacilli was essential to the production of the disease. The inhalation of irritants, or lowered vitality, occasioned by certain occupations, may cause the predisposition, but they are never the cause of the disease *per se*.

Not all the predisposing causes united could in any instance induce tuberculosis without the advent of the tubercle-bacillus. That something more was needed was admitted by Pollock twenty years ago, when he declared that there must be "some subtle agent to precipitate, concentrate, and shape these elements of the disease into tubercle."[2] And Da Costa says, "Whatever it be, is something special.[3]"

Experiments have demonstrated, beyond doubt, that it is impossible to induce true tuberculosis in any case where proper precautions have been taken to remove from the irritant used all living germs. This is now accepted as a fact by many of those who once held a contrary opinion. Wilson Fox, Cheyne, Sternberg and others, who performed these experi-

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3 Loc. cit., p. 67.

1 The elements of Prognosis in Consumption. London, 1865, p 337.

3 Phila. Med. Times, June 19, 1880.

ments under the conditions mentioned, have acknowledged that under such circumstances it was impossible to produce the disease.

Objections are also made to the fact that these bacilli are the cause of tubercle, because they were not found in all the cases of tuberculosis examined by certain investigators. It is fair to presume that in these instances they must have escaped detection, since bacilli have been found in every case of tuberculosis examined by careful observers.

Many instances are recorded where foreign bodies have been carried into the lungs by gunshot wounds or otherwise, without occasioning much disturbance in the parts or seriously affecting the health.

Rush,[1] with his experience of the Revolutionary War, declared that he had never known a case of phthisis to result from wounds in the lungs, and this observation was supported by the Surgeon General of the Royal Army.

A number of cases of gunshot wounds of the lungs occurred during the late war, but, as far as known, they were not the occasion of any death by phthisis.[2]

I am free to admit that, in cases where a predisposition exists, it may be still further developed by the presence of an irritant, just as a furuncle in one individual may be harmless, and in another the starting point of a cancer. The late General Baxter,[3] of this city, received a wound in the lungs on the 6th of May, 1864, and was more or less actively engaged in his

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[NOTE. That the excretion of these bacilli might prove to be the *materies morbi*, was suggested by me some time ago; and this opinion is also entertained by Dr. G. M. Sternberg, U. S. A., who subsequently made the same suggestion in the *Med. Record*, N. Y., Oct. 25th, 1884.]

1 Medical Inquiries and Observations. Phila., 1805, Vol. II, pp. 72, 73.

2 Med. and Surg. Hist of the War. Second issue, 1875, Part I, Surg. Vol., p. 478, 481.

3 The Daily Evening Telegraph, Philadelphia, May 10th, 1881.

duties until twelve years afterwards, when, during a fit of coughing, he ejected what appeared to be a hardened bit of pus. This, upon examination, proved to be the envelope of a small piece of coarse, red cloth, half an inch in diameter (such as is used for the stiffening and padding of coats), which had been carried into his lungs at the time he received the wound in 1864. During all this interval there had been a constant suppuration of the lungs, occasioning considerable discomfort, but not sufficient to render him unable to fill several important positions demanding his careful attention. Three years after expelling the foreign body (seventeen years from the time he received the wound) he died, it is said, from phthisis. In this instance, admitting that he died from phthisis, a predisposition to the disease was evidently established by a greatly lowered vitality, occasioned by the long continued suppuration. For twelve years he lived without a sign of phthisis; but after he had rid his lungs of the original irritant, the bacillus tuberculosis found its way to the rich soil so long prepared for its reception, and there multiplied until the life of the individual was ended.

So certain diseases, occasioning an irritation or a lowered vitality of the pulmonary mucous membrane, have the reputation of being the indirect causes of tuberculosis. Measles, especially when occurring in children of phthisical parents, are liable to have consumption as a sequel. The mucous membranes are implicated in this disease, probably more so than in any of the eruptive fevers; the epithelium is cast off, and the denuded membrane exposed to the direct contact of the tubercle-bacillus.

It has been satisfactorily demonstrated that tuberculosis may be caused by inoculation in the human subject. Laennec, whilst examining a vertebra containing tubercle, slightly

wounded one of his fingers with the saw blade. In the site of this wound a small, round tumor subsequently appeared, which, upon investigation, exhibited all the physical characters of tubercle. It was destroyed by the application of an escharotic, and no bad effects resulted from it.[1]

Another instance was that of a fisherman free from tuberculosis, but suffering from gangrene of the toe, who was purposely inoculated. Thirty-seven days after the experiment he died, and the autopsy revealed a tuberculous deposit in the lungs and liver.[2]

But the most satisfactory evidence of the effects of inoculation of tubercle is that presented in the case recorded by Dr. E. A. Tscherning.[3]

The subject, employed as cook in the family of Professor H., was a perfectly healthy woman, about twenty-four years of age, with a history unexceptionally free from any hereditary taint of scrofulous or tuberculous affections. After a short illness the Professor died of phthisis. The cook unfortunately broke the glass sputum-cup used by her employer, and a spicula from it punctured one of her fingers. Fourteen days afterward there appeared at this point what seemed to be a felon. This was treated at Professor Studgaard's clinic, and at the end of a few weeks the finger was much better; a little nodule, however, about half as large as a pea, was found to exist in the subcutaneous connective tissue, which after awhile became tender and œdematous. This was now cut out, and the wound healed readily. About three months from the time of the accident, Professor Studgaard found that the sheath of the

1 Diseases of the Chest. Translated by J. Forbes, M. D., London, 1834, p. 305.

2 Gazette, Med., 1872, p. 192. Quoted in Biennial Retrospect of Med. and Surg., 1871-72, p. 38.

3 Hospitals-Tidende, Copenhagen, Dec. 17th, 1884.

tendon was thickened, and two cubital and two axillary glands were enlarged. He disarticulated the middle finger, and the tendon, with its thickened sheath, as well as the enlarged glands at elbow and axilla, were dissected away. Upon examination, the sheath of the tendon was found to be filled with pale granulations. Sections of the sheath and of the extirpated glands were subsequently subjected to microscopic investigation, and numerous tubercle-bacilli found in them, which positively established the peculiar character of the affection.

Dr. Tscherning has observed upwards of thirty cases of localized tuberculosis, and in each instance the microscopical appearances were the same as in this case.

Many eminent men, by their constant attendance upon the phthisical and by their close and frequent study of the post-mortem conditions of their cases, have been made victims to the disease themselves. Among those who have met death in this way may be mentioned Bayle, Laennec, Delaburg, Dance, Young-Thomas, and many other names could be added.

Much stress has been laid upon heredity as being one of the chief causes of the vast mortality from this disease. It is my belief that phthisis is never transmitted from parent to child; it is simply a predisposition that is inherited. By predisposition I mean a greatly lessened power of resistance in the tissues, especially in the lymphatic system. If tuberculosis was inherited we might expect to find some indications of this in the fœtus, but the observations of Guizot,[1] Gluge,[2] Heller,[3] and Virchow,[4] have shown that this is not the case. In 1,300 fœtuses examined by Heller there was no evidence of a tuberculous taint in any one of them, notwithstanding

1 Quoted by Dr. Durant. Trans. of the N. Y. State Med. Soc., 1878, p. 174.

2 Ibid. 3 Medical News, Phila., 1884, p. 302. 4 Ibid.

the fact that in one instance the patient died of phthisis with the fœtus in utero. Virchow, with his experience of more than fifty years, says: "He had not seen a single case of direct transfer in the fœtus." This also holds true in regard to the offspring of animals which have been under observation while suffering from tuberculosis; there is no instance on record in which they have exhibited a trace of the disease.[1]

The presence of the disease in infants is undoubtedly due to the bacillus, or its spores, contained in the milk of the phthisical mother, or in the air it is constantly obliged to breath.[2] In other words, the disease is not transmitted, but it is acquired. I have elsewhere shown the fallacy of the hereditary transmission of the disease.[3]

There are but few insurance companies that will accept as a risk any one whose family history is not clear of tuberculosis; hence it would seem that such careful exclusion would remove all questions of hereditary transmission in those losses which they may sustain by deaths from phthisis. One of the most conscientious companies in this respect is The Mutual Life Insurance Company, of New York. It is especially careful in excluding such risks, and will not only refuse to accept an applicant who has a phthisical history, howsoever remote, but will not regard an application in which there is the least evidence of a predisposition to the disease, no matter what the age of applicant may be. Notwithstanding the exercise of an unusual amount of vigilance, they are nevertheless obliged to declare that "Consumption has been the occasion of more deaths than any other disease, giving a percentage of $17\frac{16}{100}$ of the total mortality; while deaths recorded under other

1 Practitioner, London, Vol. XXX, 1883, p. 318.

2 British Med. Jour., 1879, Vol. XX, p. 616.

3 "Reasons for Believing in the Contagiousness of Phthisis." Read before the Philadelphia County Med. Society, June 11, 1884.

headings, but properly belonging to this, would swell the number to 20 per cent."[4] Here, then, is a freedom from an hereditary taint as far as rigid examinations are capable of determining it. Under such circumstances the rate of mortality is surprising, to those, at least, who have faith in the hereditary transmission of the disease. A few years previous to that in which this report was made, the death rate from consumption in the adult male population of New York City was $30\frac{17}{100}$ per cent. This but little over 13 per cent. of the deaths among those who were considered especially exempt from the disease.

It would be impossible to enumerate the so-called causes of tuberculosis. The disease has been attributed to every imaginable influence which could occasion a morbid condition of the system. This error is readily accounted for when it is understood that any influence which will bring about a lowered vitality of the body will induce a predisposition to the disease, which is established by the presence of the bacillus tuberculosis.

Age.—In looking over "health reports" and other statistics, I have been surprised at finding records relating to the time of life when tuberculosis is most prevalent, which are entirely at variance with the ideas entertained by many practitioners. It is very generally believed that at the age of puberty, especially in those supposed to possess hereditary taint, phthisis is most apt to manifest itself, and that the liability to contract the disease is lessened with advancing years. It seems, however, that this is not the case, for in early childhood and at puberty the mortality is less than at any other period of life. There is reason for believing that the best way to determine the time of life at which the disease is the most fatal is to

4 Preliminary Report of the Mortality Experience of The Mutual Life Insurance Company, of New York. New York, 1875, p. 12.

compare the death rate occasioned by it at certain periods of life with the number of living persons at the same age. This has been done by several reliable persons, including Dr. Edgar Holden,[1] and I will read to you an interesting table prepared by A. Wuerzberg, the librarian of the Imperial Health Office at Berlin, Prussia.[2] This table is as follows:

Of 10,00 individuals aged	0– 1	year	there die annually	of consumption	$25\frac{45}{100}$
" " "	1– 2	"	"	"	$20\frac{41}{100}$
" " "	5–10	"	"	"	$4\frac{66}{100}$
" " "	15–20	"	"	"	$18\frac{87}{100}$
" " "	20–25	"	"	"	$30\frac{24}{100}$
" " "	25–30	"	"	"	$36\frac{78}{100}$
" " "	30–40	"	"	"	$41\frac{12}{100}$
" " "	50–60	"	"	"	$67\frac{94}{100}$
" " "	60–70	"	"	"	$93\frac{18}{100}$
" " "	70–80	"	"	"	$61\frac{72}{100}$
" " "	over 80		"	"	$25\frac{80}{100}$

This table goes to show that at the two extremes of life, where vitality is at the lowest, thus lessening the power of resistance, the disease is most fatal.

It must not be forgotten that among the many causes which lead to a predisposition to tuberculosis, conditions of mental depression play an active part. Bad habits or immoral conduct, which lead to bitter regrets; or domestic infielicity, occasioning long continued fret and worry, will produce a depression of this character more or less marked. A case recently came under my notice in which the patient's health was first affected by the unfortunate conditions of his domestic affairs; they were the occasion of continued anxiety and worriment for several years, and finally brought him into a condition of nervous exhaustion. This was soon followed by the signs of phthisis, and he died about six months afterwards. In this case the predisposition was certainly due to a lowered vitality,

1 The Medical Record, New York, July 12, 1884.

2 American Journal of the Medical Science, July, 1884, p. 192.

induced by long-continued mental depression, aided somewhat by the patient's occupation, which was that of a book-keeper. There was no hereditary tendency to the disease, and had he been more fortunate in his domestic relations he might still be living.

The following interesting cases, which I have personally investigated, will go to support some of the assertions I have made in my paper:

Case 1.—J. E., an invalid, was married; twelve months afterwards his wife gave birth to a child, and in the following month the father died of phthisis. At the age of five months the child died of marasmus, and in sixteen months after her accouchment the wife died of phthisis. She was of a healthy and long-lived family, but had occupied the same room with her husband during his illness.

Case 2.—S. Y. was a healthy young man who married a lady that was physically below par. About a year after marriage she gave birth to a child, and from this period onward she declined in health and ultimately died of phthisis five years afterwards. Eighteen months prior to her death her husband exhibited symptoms of tubercular laryngitis, and died of consumption four weeks before his wife. In this case I ascertained that the wife had come from a tuberculous family (her parents and five sisters having died from the disease), while in the husband's family there was not a trace of tuberculosis, his parents living far beyond the allotted three score and ten, and his brothers and sisters in the full enjoyment of health. This gentleman, who was greatly devoted to his wife, and had been constant in his attendance upon her and had slept in the same room.

Case 3.—I. R., a young man, aged twenty-seven, of very temperate and regular habits, who presented no family history

of tuberculosis, and whose constitution and general health were excellent, married a young lady of delicate health, in whose family consumption had caused the death of father, mother and three sisters. The occupation of the young man was that of ticket agent in a railroad office. About three and a half years after his marriage he became ill, and a year after the commencement of his illness died of phthisis. Two years and a half susequent to his death his wife died of the same disease.

In the first case narrated to you the healthy, robust bride certainly contracted the disease from her husband. In the second case the young man, with an excellent family history and good health at the time of his mrrriage, not only contracted the disease from his phthisical wife, but died of it four weeks before she did. In the third case we have a healthy, and vigorous young man, with an excellent family history marrying a phthisical girl from a phthisical family, and what is the result? Through his close companionship with his consumptive wife he contracts the disease which occasions his death two and a half years before his wife succumbs to the malady.

I might add to this list a number of similar cases, were it necessary to do so, for I have the notes of many which prove conclusively the contagiousness of phthisis. Indeed, any one can lay his hands upon recorded cases without number which would convert even the most skeptical to this belief.

No one, not even the non-contagionists, can declare that the cases I have narrated are simply "coincidences." The experience of medical men, especially of those who are engaged in the treatment of lung disorders, must be similar to my own, and I cannot see how there can be a question in their minds in regard to the contagiousness of phthisis.

If the most convincing proof of the truth of a comprehensive

theory lies in its power of absorbing and finding a place for new facts, and its capability of interpreting phenomena which had previously been looked upon as unaccountable anomalies,[1] then I know of no theory more truthful than the one which I have advocated before you this evening. It will fully explain every phenomenon connected with this malady, the universal mortality it occasions in every part of the world, and why one member of a family after another, with no hereditary predisposition, has succumbed to its power.

It is a singular fact that in all the recorded cases where the disease has been occasioned by close association with the phthisical, as in nursing, it has been unusually rapid in its course, frequently carrying off those unfortunates during the lifetime of those from whom the disease was contracted.

And what does all this teach us? Simply this, that our real strength in battling with this terrible disorder lies not so much in medication as in the application of hygienic and sanitary laws.

Surgeon General Von Lauer, of the Royal Prussian War Department, in a letter dated October 16th, 1884, kindly enclosed to me a copy of the instructions which he issued in regard to diseases of the lungs. They are of such importance that I quote them in full. It is also of interest to know that in Austria, where the bacillary origin of tuberculosis met with greater opposition than anywhere else in Europe, the Government has recognized its infectious nature and has issued official instructions similar to these of Surgeon General Von Lauer. The same precautionary measures should be adopted in the hospitals of our own country, and it is fair to assume that this will be done.

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1 Contributions to the Theory of Natural Selection. By A. R. Wallace. London, 1870, p. 45.

[COPY.]

DEPARTMENT OF WAR.

BERLIN, Aug. 31st, 1882.

The various detailed reports which, in pursuance with request of Nov. 24th, 1881 (No. 157, II, M. M. A.), have reached this Department, have clearly shown that there exists no material difference of opinion regarding the reasons for the high annual sick and mortality rate from consumption during the time of active service.

The universally acknowledged causative relations will necessarily lead to still greater caution in the treatment and care of those exhibiting the earlier symptoms of chronic pulmonary disease, as well as those in whom a predisposition is suspected or clearly discernible. The prescribed regulations should therefore be borne in mind, in order that the number of consumptives in the army may thereby be diminished. The following instructions must always be carefully observed:—

1. Although the predisposition to affections of the lungs cannot be objectively determined, and the time permitted the surgeon during the recruiting service often not extended enough to permit a careful and searching examination, to determine this question, the medical officer in charge is earnestly urged to consider the build, configuration and exhaustibility of the thorax. In this connection he is to adhere closely to the instructions of April 8th, 1877, regarding the normal limitations. Shoemakers and tailors (Oekonomiehandwerkern) of delicate frame require very careful inspection of the chest organs.

When the circumstances attendant upon the recruiting service are not favorable to exact examination, special attention is to be paid to more rigid inquiry when the recruit reaches his regiment, as directed in Par. 13 of the instructions. Here it will be of value, in forming an opinion in your cases, to seek direct officinal information regarding family history or previous disease of the lungs or pleura.

But in order not to lose sight of those cases which have

either been overlooked at the first inspection, or whose character could not then be ascertained, the recommendation of the various corps surgeons, that, with the coöperation of the proper authorities, medical examinations should be repeatedly made at stated intervals, should be particularly borne in mind, with special attention directed to those in whom disease of the respiratory organs is suspected. Special records, carefully noting the condition at each examination, must be kept. The extent to which the weakly are to be spared the arduous work of the training must be determined by the requirements of individual cases. The industrious use of douche baths, to harden the skin and accustom to exposure, naturally suggests itself here.

2. The attention of surgeons is directed to the fact that the instructions (Par. 5, Sec. 4, to Par. 7, Sec. 2) do not permit a judgment upon volunteers without considering their fitness for field service. Complete fitness, therefore, is indispensable to a declaration of efficiency.

3. For convalescents from acute disease of the respiratory organs a prolonged period of after treatment and care is desirable. If the circumstances of the patient make home attention attainable, and only then, is a lengthy furlough to be recommended. Those returning from such furloughs are to be carefully reëxamined, and, if necessary, their transference to the appropriate health resort taken under advisement.

4. That the first symptoms of disease of the lungs may not be overlooked in making the round of the barracks, particular attention should be paid to apparently mild "catarrhs," utilizing, if necessary, evening temperature measurements. Doubtful cases should be transferred to hospital for observation.

5. The opinion of many medical officers, that prompt measures should be taken for the discharge of sufferers from chronic pulmonary disease, should not be forgotten. That even one attack of hæmorrhage (Bluthusten), if it is proven to be of undoubted pulmonary origin, is sufficient cause for discharge, and is especially emphasized. That the early dismissal of cases affording no probability of usefulness to the service removes a

source of infection for hospital and barrack, must be viewed as by no means the least important advantage of this provision,

Now that experimental pathology has furnished exact scientific corroboration of the theory of infectiousness of phthisis, more importance than ever must be attached to the separation, both in hospital and barrack, of those afflicted with or suspected of phthisis, from other patients, especially from those suffering with inflammation of the lungs or recent bronchial catarrh. The sputum being the principal carrier of the disease germ, and consequently the principal source of infection, provision for its removal and disinfection (Unschadlichmachung) follows as a matter of course.

In answer to the question raised by this Department, as to whether new measures for the diminution of the number of cases of phthisis, with particular reference to the necessity for the establishment of climatic summer or winter stations for their treatment, were called for, the responses were unanimous against such establishment. The indications for them were considered uncertain, and the existing provision adequate for the present necessities of the army. The Department endorses this view, and is convinced that the careful observance of the general directions herewith transmitted will be of interest and service to the army as well as to the patient. Although tedious attempts at cure by long-continued stay at climatic stations may be considered of doubtful value to the phthisical patient, and not at all likely to furnish the army with a soldier fit for field service, the prompt despatch of a convalescent from an acute non-phthisical affection of the respiratory apparatus to an appropriate station, is warmly to be recommended. Such station, from among those at the disposal of the Department, is to be carefully selected, and treatment conscientiously carried out.

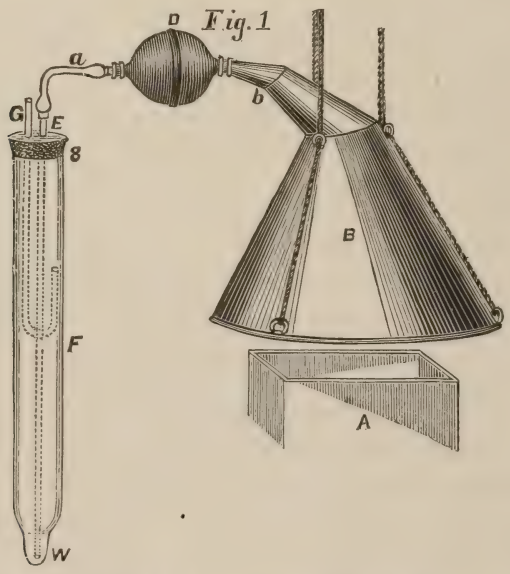
This communication, with five copies, is transmitted to you, with the request that you submit your views to the General Commanding, and instruct the sanitary officers of the corps to be guided thereby. (Signed) V. LAUER-STRUBE,

Department of War, Army Medical Division.

To all Royal Corps Surgeons, No. 20, 4, 82, M. M. A.; 64, 9–84, M. M. A.

Like other disease germs the tubercle-bacilli are carried by the air, and will, of course, be found to be more plentiful in the vicinity of the victims of tuberculosis. A single bacillus may as surely induce the disease as the presence of a great number; and since we are at no time free from the chance of inhaling this germ, our safety lies in avoiding a "predisposition" to lung troubles. In order to determine whether the bacilli might be readily found in the air of the street, or of places of public resort, I have constructed the instruments which I now show to you.

Fig. 1



The first apparatus I had made was after the plan of the ordinary inhaler (as shown in the accompanying engraving, Fig. 1). The long tube (E) passed into a little well (W) at the bottom of the bottle containing glycerine, which was intended to retain any germs carried by the air passing through it; by rotating the bottle its sides were also smeared with glycerine, to give a still larger surface of glycerine for the

contact of the air which, after entering the funnel (B), was forced through the apparatus by using the pump (D). This was undoubtedly an effective germ trap, but the impossibility of drying the glycerine, which it was necessary to do in order to obtain microscopic proof of the presence of bacilli, obliged me to devise another method of obtaining them.

The second trap consisted of a brass cylinder containing a series of snugly fitted steel discs (as shown in the illustration, which gives a sectional view, Fig. 2). Each disc was perforated in such a manner that, when placed together, the

Fig. 2.

openings formed a cone. Between each of these discs, across their openings, thin layers of pyroxylin were placed; the discs were then introduced into the cylinder, which was tightly fastened. To one end of the cylinder the pump connection was affixed, and the other end was connected with the funnel, which was placed over the ventilating flue, to take the air. When the pump was put in motion it drew the air through the apparatus and necessarily through the veils of pyroxylin held in position by the metal discs, the pyroxylin thus serving to intercept the passage of any germs.

With this apparatus I visited a number of places of public resort, and through the courtesy of those in authority I was given free access to the parts of the establishments wherein the exit flues were located. These flues, in all instances except one, were placed in the ceiling of the auditorium and directly over the audience. Here I placed the funnel-shaped extremity of the apparatus, and its pump was kept continu-

ously in motion until fifteen or twenty minutes after the audience had retired. This experiment was repeated a number of times at each establishment I visited. The trap was then dismantled; the thin layers or veils of pyroxylin were removed from between the steel discs, and placed in the hands of Drs. E. O. Shakespeare and Morris Longstreth, for microscopic examination. These skillful microscopists have made the following reports:

PHILADELPHIA, Feb. 3d, 1885.

Dear Doctor: The specimens of pyroxylin (Nos. 1, 2, 3 and 4) which you sent to me to examine microscopically for the presence or absence of tubercle-bacilli, were variously treated. Nos. 1, 2 and 3 were separately dissolved in a mixture of absolute alcohol and strong ether. The collodion thus formed was handled in either of two ways: *a*, a thin film was deposited on a thin cover glass, such as is used in mounting of microscopic objects, and was stained in the manner recommended by Koch for the demonstration of the tubercle-bacillus; or, *b*, the collodion was excessively diluted in a test-tube, by addition of relatively large quantities of alcohol and ether, and then allowed to stand for some hours, in order that suspended portions might fall to the bottom. The fluid was then carefully drawn off. The sediment at the bottom of the test-tube was mixed with a drop or two of sterilized beef-peptone-fluid, such as I keep in stock for bacteria-culture use, and was spread in a thin film upon a cover glass. This film was also treated in the manner above mentioned for the demonstration of the tubercle-bacilli. I had, however, considerable trouble in following these methods. There was great difficulty in decolorizing the film; many times this seemed quite impossible.

In these three specimens of pyroxylin I found no bacilli tuberculosis.

No. 4 I determined to treat in another manner. I employed two different methods: *a*. I took portions of the pyroxylin and stained it, as I would do sections of tissue in

which I wished to seek for tubercle bacilli, namely, in the manner recommended and practiced by Koch. Methyl-violet being the color used in the aniline oil mixture. These were subsequently mounted in balsam in the usual way without converting them into collodion. *b.* Other portions of the pyroxylin were stained with fuchsin as the color of the aniline oil mixture. After staining in the usual way, including the methyl blue as contrast color, the pyroxylin was placed on an object-glass slide for the microscope and converted into collodion by using a mixture of ether and alcohol. As soon as it was dissolved a thin glass cover was placed over it. This latter method, in my hands, was by far the most satisfactory.

In the portion of pyroxylin prepared by the "*a*" method, I found two objects which, by their size, shape and color, had they been isolated and seen in sputum, I would have taken for tubercle-bacilli, but these objects were attached to fibers of pyroxylin which, in spite of the successive action of weak nitric acid and of strong alcohol, and in spite of the subsequent use of Bismarck brown as a contrast color, were also tinted violet. This observation must, therefore, be classed as negative, or, at least, doubtful.

In the portion of pyroxylin treated by the latter method, "*b*," I found, after painstaking search, one bacillus, which, on account of its size, shape, and quite characteristic color (bright red, the ground being blue), I had no doubt was a tubercle-bacillus. There were two other rod-like forms which in size and shape appeared identical with tubercle-bacilli, but the color which they showed was so indistinct that it could not be safely made out. I have to report, then, the finding of one tubercle bacilli in the specimen marked No. 4. There were, of course, numerous other objects in all the specimens examined, but as you wished only to know of the tubercle-bacillus, I have thought it needless to particularize concerning them. Yours very truly, E. O. SHAKESPEARE.

To Dr. W. H. Webb.

PHILADELPHIA, Feb. 4, 1885.

Dear Doctor: In compliance with your request I enclose you the following report on the examination of pyroxylin from your germ-trap, in relation to the presence or absence of the bacillus of tuberculosis (Koch).

The material consisted of five small pledgets of cotton, contained in a small phial, sealed with paraffine.

The five portions were carefully kept apart and examined separately.

The staining method employed was that recommended by Koch: Aniline oil and fuchsin, bleached with dilute nitric acid, washing with dilute alcohol, contrast stain with methyl blue (in some slides), and washing finally in absolute alcohol. The only variation made in this method of mounting as usually practiced was in using a dammar medium instead of Canada balsam, which I have employed, since I have found that the dammar hardens more rapidly than the other. The examination of the specimens can be made with the oil immersions lenses more promptly, without the risk involved in displacing the cover glasses, should the oil come in contact with the mounting medium. It was found by a preliminary examination that four of the five specimens of cotton were not likely to furnish any number of bacilli, and the further search among these four specimens was consequently abandoned.

The fifth specimen, labeled No. 1, engaged the sole attention of further examination, as it was composed of the cotton which first met the current of air as drawn through the trap.

The cotton was very much discoloured by dust and other matter, particles of which could easily be shaken off from it. Care, however, was observed so as to lose as little as possible of these adhering matters.

The staining, bleaching and other steps in the mounting were carried out by first placing the cotton in a watch glass containing the aniline fuchsin stain and allowing it to remain, tightly covered, for twelve hours. Portions of the cotton were then thinly spread on a cover-glass, and the subsequent steps of the operation carried on in this position. It has been usual,

I believe, in examining gun-cotton, to detect the presence of objects capable of being shown by a differential staining, to convert the cotton into collodion by admixture of ether and alcohol. This method I avoided, in the chief examinations, as being essentially faulty, since if the bacilli should be present in a dried film of collodion it would be impossible for the staining agents to come in contact with the micro-organisms buried in the depth of the film.

Very considerable difficulties and much tedious searching were encountered in the microscopic examination, owing to interlacing and overlying arrangement of the cotton fibers. For although the strongest pressure was placed on the covers which the glass would stand—and many specimens were lost in this manner—nevertheless the depth of the material presented a field of much confusion. The confusion was somewhat lessened, but not removed, by adding another step to the process of mounting, viz., by treating the cotton after staining and bleaching with a mixture of ether and alcohol, for the purpose of converting it into collodion. While this treatment dissolved the cotton fibers still some fibers of flax and wool were left. It did not, of course, help the confusion due to large amounts of dirt particles which were present. It was hoped that by thus making a collodion of the gun-cotton after the staining process was completed, some advantages might be obtained. Such, however, was not the case. The examination of six slides from specimen No. 1 gave the following results:

Slide a. 1 bacillus, 1 doubtful.
" b. 6 bacilli.
" c. 3 "
" d. 1 bacillus.
" e. none.
" f. uncertain.

It is not intended to convey the idea that these were the only bacilli present. A very careful examination might reveal the presence of more organisms. For the uncertainty of the examination excuse must be found in the nature of the mate-

rials dealt with; the impossibility of rendering the layer of material of uniform thickness, as can be readily done with sputa and with sections of tissue; the very large amount of dust particles scattered through a layer of considerable thickness; the facts, also, which I have not seen alluded to previously, that many fibers of cotton have in them clefts, which retain staining material in spite of bleaching; many of these clefts closely approach in length and breadth the figures of the bacillus; and, finally, the short time which I have been allowed for the work since the specimens were placed in my charge for examination.

Yours very truly,

MORRIS LONGSTRETH.

To Dr. W. H. Webb.

The layer or veil of pyroxylin through which the air from the flues first passed seems to have stopped the passage of all germs and other atoms, and in this way acted as a trap, to the exclusion of the other veils of pyroxylin placed between the discs for that purpose. Unfortunately, the portion submitted to Dr. Shakespeare for examination was not of the first layer, and to this may be attributed his inability to find more than one bacillus.

Furthermore, the number of bacilli found by Dr. Longstreth in the minute particle of the material he examined seems to indicate the presence of vast numbers of these germs in the entire layer removed from the trap.

And now, in conclusion, I desire it to be understood that I have spoken, not so much to maintain a proposition as to reveal the truth; and that in giving you the opinions of those who have beaten a path wherein we may the more easily travel, I have but done justice to a class of men equally endowed as ourselves to observe and to reason from cause to effect. I would also state that the aim of this paper is simply to emphasize facts, leaving you to deal with them as your wisdom may

dictate. A careful analysis of the writings and investigations of those who have given special thought to the subject which I have treated, reveals the fact that since the time of Hippocrates there has been a gradual but steady progress towards the grand beacon which now illuminates our way. The very slowness of the advance, the suspicion with which the announcement of every new development has been received, and the earnest criticism to which they have been subjected, insures the safety of our position to-day. Apart from the ocular demonstration of scientific investigations of modern times, and from a purely clinical standpoint alone, the weight of evidence as to the contagiousness of tuberculosis must certainly be appreciated by you all. Even those who do not acknowledge it in words, proclaim it by their manifestation of doubt, and quiet avowal that there is something lacking which will enable them to fix upon the cause of a disease maintaining such marked characteristics from age to age, and among all people.

We are living in a scientific age, and the medical profession is thoroughly imbued with its spirit and import. We deal with facts, and are little inclined to give heed to that which is purely speculative. Such superstitions as the "Royal Touch" belong to a departed age. "Coincidences" and "Happened so's" serve no longer to answer our inquiries concerning the causes or nature of disease. Never before have we been so well established in respect to the means and methods of making research and experiments in the domain of medicine, and never before have the searchers after its truths been more earnest in their efforts or more hopeful of grand results. The discovery of the tubercle-bacillus is a scientific fact; all, with the same facilities, may see what others have seen. It is the one thing tangible, describable, known by its peculiarities among entities as readily as one individual is

known from another. To doubt its existence in tuberculosis, is to doubt the utility of scientific medical research, and to abandon further progress to the unstable dreams of theorists. The sputa of the phthisical contain these germs; the air they exhale is loaded with them or their spores, and introduction into the system of animals will always produce tuberculosis *while nothing else will.* These are not speculations, but demonstrable facts! Furthermore, clinical observations go to prove conclusively that healthy individuals, living in an atmosphere contaminated by the phthisical, will contract this disease, and not any other which might be due to a lowered vitality, from being in close quarters and breathing a vitiated air. That there is yet much to be learned in regard to the tubercle-bacillus there can be no doubt. Still, having made a wide breach in the walls that hemmed in the mystery of tuberculosis, it behooves us to press on to its complete solution.

And now, Mr. President and Fellows of the College, my remarks on the question at issue are, for the present, at an end; but I feel that I would be recreant to the cause I have espoused did I not avail myself of this opportunity to state that, in more than one instance, in articles recently published, the non-contagionists, it seems to me, have willfully, unhesitatingly, and without warrant, perverted the language, even absolutely falsifying the statements, of authors they quote in support of their cause. That such reprehensible practices should be resorted to, for what must necessarily be but a momentary triumph, is of itself strong evidence of the vulnerability of their position, and requires no word of condemnation from me; nor would I think proper to notice it at this juncture, were it not to point out the necessity for all conscientious investigators to verify every and all citations by referring, wherever possible, to the

original documents. And if my feeble efforts have, in the slightest degree, advanced the cause of truth and humanity, my labour has not been in vain. Now—

"Say as you think, and speak it from
your souls."
"What you do
Still betters what is done."

CLINICAL REPORTS.

FIBRINOUS PNEUMONIA.

Among the many interesting cases in the Medical Clinical Institute at Genoa, directed by Prof. Maragliano, there were two patients affected with fibrinous pneumonia, which, for the course and result of the disease and also for the method of treatment employed, deserve special notice. The history of one of them is as follows:

A man, 44 years old, a blacksmith by trade, suffered some twenty years ago from a right-sided pneumonia. Recovery was complete. He never abused alcoholic drinks. On the 12th of January, last, he was taken with a rigor, pain in the right mammary region and the epigastrium, accompanied by a violent cough, with which he expectorated sputa, tinged with blood. He complained of intense cephalalgia. On the 14th, he entered the *clinique;* his temperature in the axilla was 39.6° C. On examination, he was found to be a man of robust constitution, in the left lateral decubitus. The right half of the thorax dilated less than the left, the number of respirations was 50 per minute. On percussion, nothing abnormal was noted anteriorly: posteriorly, there was found hypophonesis

from the angle of the scapula to the base of the right thorax, hypophonesis at the left base, increased vocal fremitus, bronchial breathing and crepitant râles.

Heart, spleen and liver, normal; nothing abnormal in the urine, except an abundance of uroerythrin. The patient was submitted, as is usual in this *clinique*, to the stimulant treatment,—that is, a tablespoonful of a potion, containing fifteen per cent. of alcohol, every hour, and 25 centigrams of caffeine every four hours. On the 15th, the fourth day of the disease, the temperature was 40° C., pulse 112, respiration 48. No change in the respiratory organs. On the 16th (fifth day of the disease) the hypophonesis of the right base posteriorly changed into dullness—the same numerous crepitant râles persisting at the left base, pulse 90, respiration 48. On the 17th (sixth day of the disease), the temperature, taken hourly, varied from 38.5° to 39.5° C. On palpation, bronchial fremitus was observed anteriorly, on the right and left sides. Dry cups were applied. 18th, the patient passed the night in delirium. The temperature varied from 37.7° to 39.6° C. On the right side posteriorly and in the lower region, there were heard crepitant and subcrepitant râles, and small mucous râles. To the left, subcrepitant râles—the bronchial fremitus persisted anteriorly. Dry cups were applied, and a hypodermic injection of hydrochlorate of quinine, as a heart tonic, was exhibited. At noon the pulse was 120 and small. Hypodermic injection of sulphuric ether was given. 19th (eighth day of disease), delirium. The temperature varied from 38.6° to 39.6° C.; pulse, 116. The bronchial fremitus persisted anteriorly. Posteriorly to the right, there were heard coarse mucous râles, and coarse subcrepitant râles at the left. Injection of ether. At noon the pulse 114, the patient was brighter, answered questions, the temperature was 38° C. An enema of three grains of

antipyrine was given, and after four hours the temperature fell to 37.8°, continuing at this four hours. The vocal fremitus persisted and dry cups were applied. 20th (ninth), temperature 38.2°. The bronchial fremitus has disappeared. Evening, temperature 39°, pulse 112, small and irregular. The bronchial fremitus reappeared. A grain of ether was injected, dry cups were applied, and three grains of antipyrine were given in an enema. The temperature fell after six hours to 37.4° C., and continued at this seven hours.

21st (tenth), the same symptoms of the respiratory organs were persistent. Inhalations of oxygen were given. 22d (eleventh), the bronchial fremitus had disappeared. There was an abundant expectoration of muco-purulent sputa, nummular and puriform. A grain and a half of bisulphate of quinine was prescribed, and a tablespoonful of Marsala wine hourly. 23d (twelfth), temperature 37.6°. Symptoms unchanged. There were prescribed every three hours inhalations of three cylinders of medicated compressed air passed through a saturated solution of iodoform in the essential oil of turpentine, also a tablespoonful hourly of three grains of oil of turpentine in 300 grains of gum arabic emulsion. 24th (thirteenth), nothing new. 25th (fourteenth), pericardiac fremitus and a friction sound was noticed. 26th (fifteenth), diminished respiration without pus. A slight improvement, the temperature did not exceed 38.8° C. Secretion of urine increased (2,400 c.c. in 24 hours). 27th (16th), temperature 38.9°, pulse 120, respiration 48. Harsh breathing anteriorly at the right and left. Posteriorly at the right the dull sound was changed into tympanitic, the mucous râles were less numerous than on the preceding days. The patient was given a mixed diet of meat, eggs and milk. Continued to take inhalations of medicated compressed air, and took four pills of strychnine, of a milligrain each, daily.

28th, 29th and 30th (17th, 18th and 19th day of disease), nothing new.

31st (20th), the improvement continued; expectorated freely; the temperature did not exceed 38.2° C. in the evening.

February 1st (21st), pericardial symptoms disappeared; the improvement continued.

2d, 3d and 4th (22d, 23d and 24th), nothing new.

5th (25th), râles fast disappearing. Temperature did not exceed 38° in the evening. 6th (26th), the oil of turpentine internally was stopped, and four tablespoonfuls of cod liver oil with half per cent. of pure creosote were given.

7th to 15th (27th to 35th), the patient was apyretic, the appetite is fair, the cough less frequent, the expectoration muco-salivary, with some muco-purulent sputa. Posteriorly to the left the diminution of resonance at the base continued, with harsh respiration and some small mucous râles. The resonance had returned to the right, the râles were few.

The history of the other patient was about the same.

On these two patients, Prof. Maragliano gave a clinical lecture. He examined the different conditions capable of continuing the fever in a fibrinous pneumonia. The fever may be continuous, sub-continuous and intermittent. The conditions maintaining it are, the formations of cirrhotic parts, when the fever has fallen by crisis; from the eighth to the ninth day, there lights up again the gray hepatization, or the purulent infiltration, or the pulmonary abscess, the gangrene, or the caseous change of the exudates. But the *pulmonary abscess* gives rise to a remittent fever, a purulent expectoration and all the symptoms of the formation of a cavity in the parenchyma of the lungs. The *gangrene*. Besides the typical remittent fever with sweats and rigors, the gangrene is characterized by a breath of cadaveric odor, and by a characteristic

expectoration, while the *caseous degeneration* maintains the fever of an intermittent type; in this the râles are subcrepitant, and the organic wasting progresses rapidly. In the gray hepatization of purulent infiltration, we have a sub-continuous fever, typhoid state, general wasting, and small and large râles in the inspiratory as well as the expiratory acts.

The diagnosis made in this patient was bilateral fibrinous pneumonia, localized at the base of the inferior lobes, passing into the stage of purulent infiltration. Congestion and œdema of the non-inflamed pulmonary part—dry pericarditis.

This result and course of the fibrinous pneumonia in these two patients is undoubtedly due to their organic constitutions. In one of them, besides old age (65 years), existed a marked vascular atheroma, due to chronic alcoholism, while in the other can be admitted a less resistance of his organism to some special conditions not explanable.

In these cases, it is to be noted how, by the application of dry cups, we can avoid imminent dangers of pulmonary œdema, and how beneficial are the inhalations of medicated compressed air, which not only excite the bronchial mucous membranes to expel the secretions accumulated in the lungs; but while they disinfect the respiratory surface, they prevent the absorption of infecting materials, which besides the local harm, cause without a doubt a great general injury. In these cases the inhalations caused a modification of the expectoration, but they lowered the temperature, and in one of the two patients there is great hope of a complete restoration of the pulmonary parenchyma.

A. LAGORIO.

Chiavari, Italy.

BOOK REVIEWS.

THE ELEMENTS OF PHYSIOLOGICAL PHYSICS. *By* J. MCGREGOR-ROBERTSON, M. A., M. B., C. M., *Muirhead Demonstrator of Physiology, and Assistant to the Professor of Physiology in the University of Glasgow. Illustrated with 219 Engravings on Wood. 16 mo, Cloth, pp. xv—528. Philadelphia:* H. C. LEA'S SON & CO. 1884. *Chicago:* JANSEN, MCCLURG & CO.

Physiology is becoming every day more practical and exact. The time may come when it will favorably compare with mechanics and chemistry in this respect, and this work will contribute to such advancement. Although it is issued in the series of "Manuals for Students of Medicine," there are certainly but few practitioners who would not derive some benefit from its careful perusal. It is true to its title, terse and clear. Its make up is English, and its illustrations very creditable. It is especially adapted to those medical men who did not have the advantage of studying the larger works on Natural Philosophy by Ganot and Deschanel. Part I. deals with Electricity and Magnetism. It is exhaustive, and even enters into the therapeutics of electricity; though it fails in pointing to the origin of animal electric currents, and the organic production of electricity, as observed in torpedo fishes and other animals.

Part II. treats of the Myograph; Part III. of Hydraulics, giving the mechanics of the circulation, *i.e.*, Osmosis, and the Sphygmograph, etc. The subject of Pneumatics follows. The subject of Optics is dealt with at considerable length, and includes the principles of the Polariscope, Ophthalmoscope,

Microscope, Spectroscope, etc. Acoustics is treated of in Part VI.; Heat in Part VII., and Dynamics in Part VIII. It will thus appear that the ordinary order of these subjects has been reversed and partly mixed, without any particular advantage resulting therefrom. The philosophy of the subject is rather meagre, and the abundant suggestions to be drawn from comparative physiology in regard to the subject-matter are still to come. H. D. V.

A MANUAL OF THE MEDICAL BOTANY OF NORTH AMERICA. *By* LAWRENCE JOHNSON, A. M., M. D., *Lecturer on Medical Botany, Med. Dep. University of the City of New York; Member of the Committee of Revision of the Pharmacopœia, etc. 8vo., cloth, pp. xv—292. New York:* WILLIAM WOOD & Co. 1884. *Chicago:* W. T. KEENER.

This is one of the valuable books issued in Wood's Library. Its make up is an improvement on many other books in the series, and the profuse illustrations which adorn it are elegant and true to nature. The nine plates drawn from photographs are admirable, but liable to be spoiled by the carelessness of the printer in omitting to face them with silk paper sheets.

This work, which might have gained by separate publication, will prove a delight to medical and pharmaceutical students in their rambling after botanical specimens, whether tramping the Green Mountains and the Adirondacks, or the iridescent prairies of the West. Part I., or the Introduction to the rest of the volume, is a short sketch of Botany, which would have gained by an addition to it of a key of classification, such as is found in Gray's. As it is, it will nevertheless be of much use to those not familiar with botany. A glossary ends this introduction. The order followed in the rest of the volume is the old one, that is, the reverse of that found in Sachs, and in C. E. Bessey. The aggregation of orders into

cohorts is omitted, though doubtless of great use, especially to beginners, and also to students of biology. Each of the 500 plants treated of is referred to six headings—description, habitat, part used, constituents, preparations, medical properties and uses. The description is complete for each order, and will enable any one to recognize the plant very readily in the field. H. D. V.

HOOPER'S PHYSICIAN'S VADE MECUM: A MANUAL OF THE PRINCIPLES AND PRACTICE OF PHYSICS, WITH AN OUTLINE OF GENERAL PATHOLOGY, THERAPEUTICS AND HYGIENE. Tenth Edition. *Revised by* W. A. GUY, M. B., F. R. S., *and* JOHN HARLEY, M. B., F. L. S. *8 vo, cloth, pp 358. Vol. II. Wood's Library. 1884.*

There is such a thing as stealing property which proves more cumbersome than valuable afterward, or which brings derision to its possessor, as the monk's medals to Gil Blas; but whether the non-existent international copyright was taken *disadvantage* of or not in this case, the book is highly interesting for its blunders. American students are often provoked by the infusions and decoctions advocated in Ziemssen's Cyclopædia, but the British nostrums far exceed these in retrogressive progress. The hypodermic use of sulphate of morphia is spoken of thus: "The subcutaneous use of morphia is often a dangerous proceeding, and the first dose by this method should never exceed one-eighth of a grain, and it is well when we are unacquainted with the constitution of the patient to introduce one-sixtieth grain of atropia previously." The formulæ for pills very frequently call for five gr. pills, which any student here would prefer to have put up in capsules. But these are probably unknown to the writers, just as fluid extracts seem to be. The following is a sample of the treatment of various diseases, and is recommended in cases of acute gas-

tritis: (Please compare with Bartholow.) I. "Six to twelve leeches to the pit of the stomach, and iced water or ice, externally and internally. Free action of the bowels in the absence of diarrhœa, by the use of emollient clysters. The free and frequent use of mucilaginous diluents, such as gruel, linseed tea, or barley-water.

II. "The sickness, restlessness, and pain, are best relieved by soda water and small doses of dilute hydrocyanic acid (m iii to m v) combined with opium." Nothing is said of the most important symptom, the vomiting.

It is time that more attention should be given to valuable literary efforts at home, and that a duty be established on the importation of foreign rags. H. D. V.

BOOKS RECEIVED.

Fifth Annual Report of the State Board of Health, Lunacy and Charity, of Massachusetts. Boston. 1884.

A Text-Book of Hygiene, by Geo. H. Rohe, M. D. Thomas & Evans, Baltimore.

A Manual of Dissection of the Human Body, by Luther Holden. Philadelphia: P. Blakiston, Son & Co.

The Diagnosis and Treatment of Chronic Nasal Catarrh. Three clinical lectures delivered at the College of Physicians and Surgeons, New York, by George Morewood Lefferts, A. M., M. D. St. Louis: Lambert & Co.

Diseases of the Urinary Male Sexual Organs, by William T. Belfield, M. D. October Number Wood's Library of Standard Medical Authors. William Wood & Co., N. Y.

A Manual of the Medical Botany of North America, by Lawrence Johnson, A. M., M. D. New York: William Wood & Co. December Number Wood's Library of Standard Medical Authors.

The Therapeutics of the Respiratory Passages, by Prosser James, M. D. November Number of Wood's Library of Standard Medical Authors. William Wood & Co., N. Y.

The International Encyclopædia of Surgery. Vol. V. William Wood & Co., N. Y.

A System of Practical Medicine by American Authors, edited by Wm. Pepper. Vol. V. Pathology and General Diseases. Lea Bros. & Co., Philadelphia, Pa.

Consumption: Its Nature, Causes, Prevention and Cure, by Jno. Kitchen, M. D. New York: G. P. Putnam's Sons.

Human Osteology, by Luther Holden. Wood's Library of Standard Medical Authors. January, 1885.

(BOUND.)

Practical Anatomy: A Manual of Dissections, by Christopher Heath, F. R. C. S. Philadelphia: P. Blakiston, Son & Co.

Handbook of the Diagnosis and Treatment of Skin Diseases, by Arthur Van Harlingen. Philadelphia: P. Blakiston, Son & Co.

A Handbook of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues, by Francis Delafield, M. D., and T. Mitchell Prudden, M. D. New York: Wm. Wood & Co. Chicago: W. T. Keener.

Kirke's Handbook of Physiology, by W. Morrant Baker and Vincent Dormer Harris. 11th Edition. New York: Wm. Wood & Co. Chicago: W. T. Keener.

The Year Book of Treatment for 1884. A critical review for practitioners of medicine and surgery. Philadelphia: Lea Bros. & Co. Chicago: S. A. Maxwell & Co.

Saint Bartholomew's Hospital Reports, edited by W. S. Church, M. D., and John Langton, F. R. C. S. London: Smith, Elder & Co.

De L'Aphosie et de ses Diverses Formes, par de Dr. Bernard. Publications du Progrés Medical.

Transactions of the American Surgical Association. Vol. II. Edited by J. Ewing Mears. Philadelphia: P. Blakiston, Son & Co.

The Student's Manual of Histology, by Chas. H. Stowell, M. D. Third Edition. Ann Arbor.

The Physician Himself, by D. W. Cathell, M. D. Fourth Edition. Baltimore: Cushing & Bailey.

Insomnia and Other Disorders of Sleep, by Henry M. Lyman, A. M., M. D.. Chicago: W. T. Keener.

The London Medical Student and Other Comicalities, selected and compiled by Hugo Ericham, M. D. Detroit: Free Press Printing Co.

Lectures on Diseases of the Nervous System, especially in Women, by S. Weir Mitchell, M. D. Lea Bros. & Co. Chicago: Jansen, McClurg & Co.

A Manual of Organic Materia Medica, by John M. Maisch, Phar. D. Lea Bros. & Co. Chicago: W. T. Keener.

A Manual for the Practice of Surgery, by Thomas Bryant, F. R. C. S. Henry C. Lea's Son & Co. Chicago: W. T. Keener.

The Science and Art of Surgery, by Jno. Eric Erichsen, F. R. S., LL. D., F. R. C. S. 8th Edition. Lea Bros. & Co. Chicago: Jansen, McClurg & Co.

The Analectic, edited by Walter S. Wells, M. D. G. P. Putnam's Sons. Chicago: S. A. Maxwell & Co.

On Wasting Diseases of Infants and Children, by Eustace Smith, M. D., London. 4th Edition. Wm. Wood & Co. Chicago: W. T. Keener.

Transactions of the 34th Annual Meeting of the Illinois State Medical Society. 1884.

Elements of Practical Medicine, by Alfred H. Carter, M. D., London. D. Appleton & Co. Chicago: Jansen, McClurg & Co.

Elements of Surgical Diagnosis, by A. Pearce Gould, M. S., M. B., Lond., F. R. C. S., Eng. Henry C. Lea's Son & Co. Chicago: Jansen, McClurg & Co.

Insanity and Allied Neuroses, by Geo. H. Savage, M. D., M. R. C. P. Henry C. Lea's Son & Co. Chicago: Jansen, McClurg & Co.

Intestinal Obstruction, by Frederick Treres, F. R. C. S. Henry C. Lea's Son & Co. Chicago: W. T. Keener.

A Guide to the Diseases of Children, by Jos. Frederick Goodhart, M. D., F. R. C. P. P. Blakiston, Son & Co. Chicago: W. T. Keener.

Guy's Hospital Reports. Vol. XLII.

One Hundred Years of Publishing. Lea Bros. & Co.

Cocaine and its Use in Ophthalmic and General Surgery, by H. Knapp, M. D. G. P. Putnam's Sons. Chicago: S. A. Maxwell & Co.

A Treatise on Amputation of the Extremities and their Complications, by R. A. Watson, A. M., M. D. P. Blakiston, Son & Co. Chicago: W. T. Keener.

PAMPHLETS RECEIVED.

Memoir on the Nature of Diphtheria. By Drs. H. C. Wood and H. F. Formad.

The Curability of Locomotor Ataxia and the Simulations of Posterior Spinal Sclerosis. By C. H. Hughes, M. D.

Gunshot Wounds of the Small Intestines. By Charles T. Parkes, M. D.

Poisoning by Cannabis Indica. A. B. Cook, M. D.

Premiére Application a Paris en 1883. L'Assainis sement suirant le Systéme Waring par Ernest Pontzen Ingèniem Ciril.

Preventable Blindness. Samuel Theobald, M. D.

Ziemssen's Motor Points of the Human Body- A Guide to Localized Electrization. Herbert Tebbetts, M. D.

Proceedings and Addresses at a Sanitary Convention, held at Ionia, Mich., Dec. 13 and 14, 1883.

Laws of Michigan Relating to Public Health. In force Sept. 8, 1883.

Transactions of the Medical Society of West Virginia, 1884.

Transactions of the Medical and Chirurgical Faculty of Maryland 86th Annual Session.

Cases of Reflex Cough due to Nasal Polypi: with Remarks. Jno. N. Mackenzie.

Transactions of the American Otological Society—17th Annual Meeting.

Kefyr Kaukasisches Gährungs ferment und Getröuk aus Kuhmilch. Dr. W. Podwyssotzki.

Explanation of the Pathology and Therapeutics of the Nervous System: Especially Epilepsy. J. McF. Gaston, M. D.

Contributions to the Anatomy and Pathology of the Nervous System Singular Case of Vertebral Disease. Richard Mollenhauer.

Mumps as a Cause of Sudden Deafness. Leartus Connor, M. D.

A Clinical Study of Syphilis of the Eye and its Appendages. Leartus Connor, M. D.

Notes on the Treatment of Trochoma by Jequirity. Leartus Connor, M. D.

Club Foot. Is Excision of the Sorsus Necessary in Children? DeF. Willard, M. D.

Experimentelle Untersuchuagen und Studien siber Contracturen der Stinunbandmuskeln. Von Dr. H. Krause in Berlin.

The Relation of Micro-Organisms to Surgical Lesions. Henry O. Marcy, M. D.

On Branchial Cysts of the Neck. By N. Senn, M. D.

Official Register of Physicians and Midwives (now in practice) to whom Certificates have been issued by the State Board of Health of Illinois. 1884.

Transactions of the Michigan State Medical Society for the year 1884.

The Plaster of Paris Dressing in the Treatment of Fractures. W. O. Daniel, M. D.

A Contribution to the Relations of Orulation and Menstruation. A. Reeves Jackson.

On Oxygen as a Remedial Agent. S. S. Wallian, M. D.

Conspectus of the Medical Colleges of America. Sessions of 1884 5. Illinois State Board of Health.

The Róle of Bacteria in Infectious Diseases. Henry O. Marcy.

A Useful Catheter for the Operation for Vesico-Vaginal Fistula.

School Hygiene in Relation to its Influence upon the Vision of Children, or School Sanitation. A. W. Calhoun, M. D.

Acetate of Lead in Ocular Therapeutics. David DeBeck, M. D.

Des Arantages de L'Hydrotherapie Hirernale. par E. Duval.

Typhoid Fever and Low Water in Wells. Henry B. Baker, M. D.

Proceedings of the Philadelphia Co. Medical Society. Vol. VI.

Medical Jurisprudence in Divorce. Carl H. Von Klein, A. M., M. D.

Experimental Researches on Cicatrization in Blood Vessels after Ligature. N. Senn, M. D.

Seventh Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital. Baltimore. 1885.

Remarks on Typhoid Fever in the Young. A. Jacobi, M. D.

Inaugural Address delivered before the New York Academy of Medicine. A. Jacobi, M. D.

Catalepsy in a Child Three Years Old. A. Jacobi, M. D.

AMERICAN MEDICAL ASSOCIATION.—The thirty-sixth annual session of the American Medical Association will be held in New Orleans, La., on Tuesday, Wednesday, Thursday and Friday, April 28th, 29th, 30th and May 1st, 1885, commencing on Tuesday, at 11 A. M.

LOCAL NEWS.

CHICAGO MEDICAL SOCIETY.—The thirty-fifth annual business meeting of the Chicago Medical Society was held on Monday evening, April 6th, 1885. The attendance was unusually large and representative.

The following officers, for the ensuing year, were elected by ballot:

President.—Professor C. T. Parkes, M. D.

First Vice-President.—C. W. Purdy, M. D.

Second Vice-President.—Professor James H. Etheridge, M. D.

Treasurer.—Harold N. Moyer, M. D.

Secretary.—Liston H. Montgomery, M. D.

Members of the Committee on Membership and Miscellaneous Business.—Gerhard C. Paoli, M. D.; Professor E. Fletcher Ingals, M. D.; Professor D. A. K. Steele, M. D.

Member of the Committee on Library.—F. C. Hotz, M. D.

Twenty-seven delegates to the annual meeting of the American Medical Association, at New Orleans, were elected.

The retiring President, Professor D. A. K. Steele, M. D., after a brief address,—in which he recommended the incorporation of the Society,—introduced the President-elect, Professor Charles T. Parkes, M. D.

The President-elect, Professor Charles T. Parkes, M. D., after a few appropriate remarks, called the Society to order.

As very general dissatisfaction was expressed with the manner in which the transactions of the Society had been reported during the past two years, the motion was carried, that a Committee on Publication, with power to investigate, should be appointed by the chair, the said committee to report at the next regular meeting of the Society.

The President appointed the following gentlemen: Professor David W. Graham, M. D., Edmund J. Doering, M. D., Robert Randolph, M, D.

Reports of committees were read, and important business transacted, before adjournment. The Transactions will appear in detail in the next issue of the CHICAGO MEDICAL JOURNAL AND EXAMINER.

PERSONAL.

Dr. James Lawrence Little, Professor of Clinical and Operative Surgery in the New York Post-Graduate Medical School, died suddenly in New York, April 4th, at the age of 49.

Dr. Abner Hard, of Aurora, died in that city on March 20th, from blood-poisoning.

THE CHICAGO

MEDICAL JOURNAL AND EXAMINER.

VOL. L. MAY, 1885. No. 5.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

THE PRE-ALBUMINURIC STAGE OF CHRONIC BRIGHT'S DISEASE. *By* CHARLES W. PURDY, M. D. *Member of the Chicago Academy of Sciences. First Vice-President of the Chicago Medical Society.*

The more closely one studies the clinical history of chronic Bright's disease, the more apparent it becomes that in its early stages albumen is quite often absent from the urine.

That I may not subsequently be misunderstood by confusion of terms, I will here premise, that what I shall have to say upon this subject is intended to apply only to that group of clinical symptoms which are accompanied or preceded by the granular kidney. Such a condition of the kidney may exist; nay, it may even pass through all the stages of contraction, with its usual clinical symptoms, till death results, without albumen making its appearance in the urine. Such cases are by no means rare, as the records of post-mortem rooms in our hospitals demonstrate, which I shall later on amply verify.

Furthermore, I am convinced that a well-defined pre-albuminuric stage of renal cirrhosis exists, which it is possible to make out, by well-defined and more constant symptoms, than that of the presence of albumen in the urine. This idea is by no means new, but has been long suspected, and is making itself felt with increasing force each year, if we are to judge from the increasing contributions to the literature of the subject, which have appeared within the past fifteen years. *

It has become the dictum since the days of Bright, to hinge the diagnosis of all diseases bearing his name on the one symptom, namely, the presence of albumen in the urine. Now the diagnosis of Bright's disease embraces a much more comprehensive investigation of facts and data than the mere search for albumen, the neglect of which leads daily to very unfortunate results.

Our life insurance companies are imposed upon frequently through incomplete so-called examinations of patients whose risks are passed as "first-class" (and some of them are literally so), upon the almost sole presumption, so far as the kidneys are concerned, that no disease exists because no albumen is present in the urine. Many of these cases are hurrying on to contracted renal organs, uremia, and death, which can at best be postponed but a short time. Nor is this picture an overdrawn one, as the following case illustrates. A year since a man made application to one of our leading insurance companies for insurance on his life. The medical officer representing the company found a slight trace of albumen in his urine, and he was referred to me. Atheromatous vessels, which had a year ago been manifest through an obstinate epistaxis, showed the usual degenerative

* Contributions on this subject, by Drs. Southy, Burdon-Sanderson, Mahomed, Saundby, and others, have appeared.

changes accompanying renal cirrhosis, to have been in progress for some time. Fig. 1 shows his pulse tracing, which is characteristic.

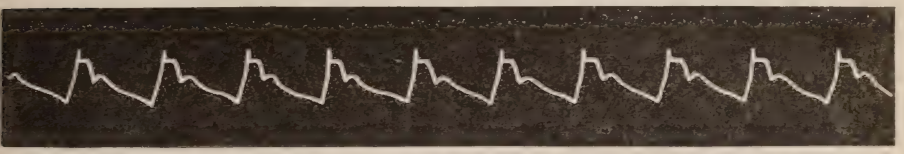


Fig. 1.

He was put under treatment, and properly restricted dietary, and told that his disease was incurable, but with care he might live some months, or perhaps years.

During my absence abroad, this man applied to another company for insurance, and was passed by the medical officer, and his life was insured for $8,000. His kidney disease is now slowly but surely advancing towards renal atrophy; and this is by no means the first case of the kind which has come under my notice.

In the days when I looked upon the presence of albuminous urine as the essential diagnostic symptom of renal disease, I have watched cases closely *for years*, suspecting the stealthy approach of cirrhotic kidneys, but was lulled into contentment by an occasional examination of urine, which was found to be free from albumen, till at length an attack of renal dyspnœa, or some other evidence of the disease, had pointed out that which I had suspected had really been going on under my very eyes. I have just now in mind a case which I had watched and suspected for nearly two years, but never could find a trace of albumen in the urine. Gastro-intestinal disturbances at length appeared, and finally a severe and prolonged attack of recurrent dyspnœa aroused me to the realization that my patient was suffering from renal cirrhosis; and subsequent autopsy proved the correctness of the diagnosis. Now I do

not wish to be understood as underestimating the value of albuminuria as a symptom of renal disease; on the contrary, *when present*, I attach the greatest importance to it, under certain conditions. But what I contend for is that when albumen is absent from the urine it does not prove that no renal disease is present. In other words, it is misleading to teach that the diagnosis should hinge upon this symptom alone. The form of renal disease under consideration is the very one in which albumen is most likely to be absent.

It is to be feared that our recent rapid advance in pathological knowledge may have tended to incline medical thought too closely to the structural to the expense of the general disorder. In other words, the seat of disease itself is scanned most minutely and laboriously, perhaps at the expense of less reliance on the good old clinical methods of investigation; for one of our great teachers has said: "After all, pathology is only a study of results, *not causes*, of disease."

It was long ago noted by writers that in certain numbers of cases of renal disease, albumen disappeared from the urine. Indeed, this did not escape the attention of Richard Bright himself, who was the first to note this circumstance. But others, among them Christoson, Rayer, Rees and Malmsten, confirmed the observation.

More recent authors point out that the cirrhotic form is the one in which this condition is noted, and pretty much all of them agree that in the early stages albumen is quite likely to be absent from the urine.

Professor Grainger Stewart, in his admirable work on "Bright's Disease," page 188, says, referring to cirrhosis of the kidney: "The early symptoms are very slight, such indeed as might easily escape notice. I have seen several cases in which the renal lesion was sufficiently distinct on post-mortem

examination, but in which there had been no albuminuria and no dropsy during life;" and again, page 189, he writes: "In the early stages (of cirrhosis) albumen is occasionally present, generally in very small quantity. One day it may be distinct, but the next day we search for it in vain."

Dr. Roberts, in his last edition, says: "But it must be admitted that chronic degeneration of the kidneys, not distinguishable from some forms of Bright's disease, does exist under certain circumstances, without albuminuria."

Bartels says (Ziemssen's Cyclopedia, page 431, Vol. XV.): "It is these cases of genuine contracting kidney, that urine is occasionally excreted, which is in no way to be distinguished from that secreted by healthy kidneys;" and again, on the same page, 435–436, he adds: "But albuminuria, as later experiences in this direction have taught me, is no constant symptom in this affection. The temporary absence of albumen, I have witnessed repeatedly,—for purpose of diagnosis, the matter is one which deserves to be detailed at greater length." On page 440 he cites a case which came under his care in the hospital, and continued under treatment, from Jan. 26th till death, March 3rd, and though both kidneys proved to be cirrhotic and extremely contracted at the autopsy, he says: "Albumen was entirely absent from the urine throughout."

Dr. Geo. Johnson, in his "Lectures on Bright's Disease," page 52, says: "The amount of albumen varies considerably. Absent or scanty in the early stage, it may be rather copious in the middle periods, and again scanty, or even entirely absent, in the stage of extreme degeneration of the kidney."

Dr. Dickinson, in his "Treatise on Albuminuria," says, in referring to the urine in the early stage of granular degeneration: "If examined in this early stage, it may be found perfectly free from albumen, or may contain only a minute trace, or, a

trace only after food, or on getting up in the morning;" and again he observes: "Early in this disease, the urine is free, both from albumen and casts; later on, a trace of albumen appears, which may not be discoverable until the constitutional symptoms are such as to indicate an advanced stage of the disease. So little albumen may be present, even to the end, that care is needed for its detection. And even that little may not be constant, but discoverable only after sleep, or meals."

Dr. Tyson, in his work on "Bright's Disease and Diabetes," page 178, says, in referring to the urine in cases of interstitial nephritis: "The albumen is small in amount, and may be temporarily absent, or it may be absent before a meal, and present after it."

Dr. Millard, in his treatise on "Bright's Disease," page 141, says: "The fact is, however, that in chronic nephritis, especially the interstitial, the appearance of albumen is often preceded for considerable, and even for a very long time, by morbific changes in the kidney, which are not recognized until the appearance of albumen. Indeed, nephritis may exist to such an extent as to produce even cirrhosis, without albumen *ever* making its appearance in the urine." He also very correctly adds, (page 143): "To rely upon albumen, solely as a means of determining the existence or non-existence of nephritis, is to rely upon an *ignis fatuus*. It is at best a coarse and primitive test of its presence; insufficient in itself, and unsatisfactory in comparison with more searching and absolutely accurate means of diagnosis." Dr. Millard cites several cases in his experience, wherein albumen was entirely absent from the urine, throughout the course of renal cirrhosis; and, indeed, he devotes a special chapter to the consideration of "Nephritis without Albuminuria;" which is well worthy of careful perusal.

In "*Guy's Hospital Reports*," for 1879, (page 367) will be

found an analysis of one hundred cases of granular kidneys, observed in that hospital, previous to that year. Out of the hundred cases noted, the very large proportion of seventy-four were characterized by the absence of albumen from the urine. Dr. Saundby, on "Occurrence of Dropsy in Granular Kidney," introduces a table showing the diagnosis—which was sent down from the wards, to the post-mortem room, at the Birmingham General Hospital*—in ninety-eight cases, in all of which, the kidneys proved to be granular. Out of these ninety-eight, only twenty-two were sent down with the diagnosis of Bright's disease. Hence, we may fairly assume, that in seventy-six of them, albumen was not discovered in the urine. Again, Dr. Mahomed collected the records of sixty-one cases treated in Guy's Hospital during the two years 1879 and 1880.† In forty-one of these, albumen was never discovered in the urine. Now, putting these statistics together, we have two hundred and fifty-nine cases of chronic Bright's disease, in which albumen was present in the urine only in sixty-eight cases, leaving one hundred and ninety-one cases, or about seventy-four per cent., in which albumen was absent. These cases can be open to little question, for, be it remembered, they were all hospital cases, subject to the usual rules for daily examinations of urine, and the diagnoses *in all* were confirmed by autopsy.

In the light of such unanswerable testimony as the foregoing, I maintain that the mere absence of albumen from the urine, constitutes no reliable evidence of the non-existence of chronic Bright's disease, and above all in its early stages. If clinical evidence, conjoined with post-mortem examination of our cases, teaches us anything, it is, that this disease may exist, and progress through years, without giving rise to albuminous

* Birmingham Medical Review, April, 1881.

† Guy's Hospital Reports, Vol. XXV, 1880 and 1881, pages 304 and 305.

urine; and therefore, a clinical symptom so notoriously inconstant and unreliable, even in the fully formed stages of the disease, constitutes the most flimsy evidence upon which to construct the diagnosis of a disease, the most insidious and silent in its early advances of any with which medical science has to deal.

In many instances chronic Bright's disease is a condition in which its early steps have been so slow and imperceptible that half the lifetime of the individual has been consumed in leading up to it through continuous functional overtaxing of the gland before any marked textural changes can be made out; yet, in this early stage, other evidences of the disease are to be found, which, taken collectively, will establish the diagnosis in the majority of cases.

I do not mean to say that absolutely the first departure from the normal condition is to be made out, for from the very nature of the first changes in the gland, it is probable that these escape detection. But I hold that during that stage in which no appreciable change can be made out in the renal epithelium (which may extend over years), albumen, as a rule, is absent from the urine, and yet, through other symptoms, the presence of the disease may often be revealed.

I have examined, microscopically, many sections of cirrhotic kidneys, including those in my own collection and in the Pathological Laboratory at Aberdeen, as well as in other places, and in the early stages of this disease I find little, if any, departure from the normal in the tubular epithelium. The earliest changes which I am able to make out, seem to be slight thickening of Bowman's capsule, sparse septa of apparently new connective tissue creeping in at varying points from the capsule and between the interlobular arteries, as well as increased thickness of the coats of the small arterial vessels. I

have compared, side by side, sections of early cirrhotic kidneys with those of normal, with the view of ascertaining the true condition of the epithelium lining the convoluted tubes in the former, and I cannot see that it varies essentially from the normal. It is misleading to speak of cloudiness of the renal epithelium. That is the normal condition, it is never clear unless cleared by some chemical agent. The very first change I am able to make out is the presence of some fat globules in the epithelial cells, and perhaps a slight flattening of the latter, so that the lumen of the tube is somewhat more open. Desquamation of the epithelium, if it ever occurs in this disease, certainly does not do so in this early stage.

Bartels says: "This much, however, I believe to be beyond all doubt, namely, that genuine renal contraction—the so-called third stage of Bright's disease of our (German) writers, Grainger Stewart's cirrhosis of the kidney, is the result of a primary growth or proliferation of the intertubular connective tissue." Dr. Dickinson, in his treatise on "Albuminuria," says: "I have examined these cells (tubular epithelial) in a great number of granular kidneys, and have carefully drawn their outlines and dimensions, as seen through an one-eighth inch object-glass. The conclusion I long ago formed, one which has been justified by careful and continued observation, is this: In the vast majority of cases, in all cases excepting those in which the contraction of the organ has become extreme, *the epithelium is exactly such as is found in healthy kidneys.*"

Charcot, in his "Lectures on Bright's Disease of the Kidneys," describes minutely the changes found in what he terms the "first stages of interstitial nephritis," as follows: "From the commencement the connective stroma is infiltrated with a more or less considerable quantity of small cellular elements, which, following the theory adopted, are called leucocytes or

embryonic cells. To this cell infiltration is due the grayish yellow color sometimes presented by the kidney at this stage of the disease. Another characteristic revealed by histological study is, that at this period the tubular apparatus of the kidney presents no appreciable alteration; the epithelium in the convoluted tubes *is in its place, and perfectly healthy.*"

This, then, explains the non-appearance of albumen in the urine during the early stage of granular kidney, for pathological and clinical evidence shows that those diseases which cause destruction of the renal epithelium are the ones which give rise to the most constant and profuse amount of albuminuria.

On this point Senator says: "The normal functions of epithelial cells is assigned as the reason for the absence of albumen in the secretion of the liver, the most prominent of the second class of glands, and likewise in the secretions of the perspiratory and lachrymal glands, supposing it to be the case that these latter secretions in their pure state are really non-albuminous. If the urine be regarded simply as a true non-albuminous glandular secretion, the epithelium must be credited with the function of preventing the escape of albumen from the blood. Even if the urine be regarded as a mixture of a transudation with a glandular secretion, the latter at least being the produce of the epithelium of the uriniferous tubes, must for the same reason be considered to be non-albuminous; whatever view may be entertained as to the presence or absence of albumen in the transudation from the glomerular vessels. The conclusion is forced upon us, that when their nutrition and functions are disturbed, or when the epithelial cells of the uriniferous tubes are in a state of complete decay, albumen will escape from the blood and lymph, and show itself in the urine hitherto apparently non-albuminous; that is, that albuminuria will become developed. Observations which are alleged to prove the

contrary must be based upon error or defective investigation, for if not, all our doctrines with regard to specific glandular secretion must be thrown to the winds."

It may be asked, then, if the renal epithelium is not the seat of any degenerative change in renal cirrhosis? How does it happen that albumen *is* present in the urine *sometimes* in the course of the disease?

We answer, that the latter is due to increased intra-vascular pressure, which is brought about as a legitimate outgrowth of the disease.

It has been established, beyond doubt, that increased blood pressure within the vessels, will, under certain conditions, cause albumen to appear in the urine. J. B. Stockvis showed by extended experimental and clinical investigations, that alterations of the circulation which checks the afflux of arterial, or the escape of venous blood, causes albumen to pass into the urine. In other words, over-fullness of the venous circulation, or slowing of the current, produces albuminuria Since, however, other observers, and especially Senator, has pointed out that high pressure in the arterial vessels will also cause albuminuria, though to a less extent.

Active muscular exertion is accompanied by an increase of the muscular power of the heart's action by about twenty-five per cent., hence, the intra-vascular pressure is increased to that extent in the arteries, and it is no uncommon thing to find albumen in the urine of healthy men, who are undergoing active muscular exercise. Heat also causes a direct rise in the arterial blood pressure, as shown by the dilated, and turgescent vessels everywhere; as a consequence of this, we often note appearance of albumen in the urine during febrile conditions. Senator proved the proposition by the following experiments. He introduced rabbits into an oven, constructed for the pur-

pose, previously having drawn off their urine, and testing it for albumen. He then slowly increased the heat in the chamber, and again tested the urine, and he states as to these experiments, many times repeated, that, "The result in all cases was the production of albuminuria, when the bodily temperature had been increased by 1.5°–3°C., with sufficient rapidity, or the heat continued for a sufficient length of time."

It may be observed that heat, or any other agent, *suddenly applied*, which raises the arterial pressure, causes a contraction of the capillaries which resists the increased pressure, and albumen does not transude under such circumstances. The pressure must be gradual to cause albuminuria. We have many examples of the production of albuminuria by intravenous pressure. Bartels relates a case bearing on this point. It was one in which there was impeded escape of the blood of the renal vein, in consequence of thrombosis of the inferior vena cava, occurring in a very robust man, forty-four years of age. Bartels says: "This patient passed *enormous quantities* of urine, and with a specific gravity varying from 1.011 to 1.013, and always containing albumen!" The occurrence of albumen in the urine as a consequence of valvular lesions of the heart, is another well known example of this kind, leading to what has been called cyanotic induration of the kidney; a condition, by the way, very similar to renal cirrhosis.

Thus it may be laid down as a rule, that intra-vascular pressure, whether arterial or venous, if only of sufficient extent, is likely to result in albuminuria.

Now, in the advanced stage of granular kidney, we have at least two conditions which lead up to increased blood pressure, and especially so within the glomerular vessels. First, hypertrophy of the left ventricle of the heart (almost uniformly present), and even before this occurs, increased power of the

heart's action, resulting from the causes which lead up to hypertrophy. Second, anatomical changes in the kidney, which obstruct the outflow from the glomerular tuft of vessels. In order more clearly to appreciate the latter, let us first glance at the vascular arrangement in the cortex, and see how it is effected by the advancing pathological changes of granular degeneration of the kidney. The interlobular arteries, as they pass upwards towards the cortex, give off directly on either side lateral branches, the afferent arterioles, each one of which on entering a Malpighian capsule, breaks up into the capillaries composing the glomerular tuft. Now the afferent vessel of the Malpighian body, after uniting with the vessels of the tuft, pass out of Bowman's capsule, and immediately *again* sub-divide into a network of capillary blood vessels, which entwine in all directions, the convoluted tubules. This network anastomoses freely also with the capillaries of the medullary rays, forming one common net-work of the whole cortex. Now, we have before noted that the first observable pathological change in the cirrhotic kidney, is a proliferation of new connective tissue cells between and among the intertubular capillary plexus. New connective tissue cells, wherever formed, as they become old and organized, *contract*, and it thus happens, that as the disease goes on, many of the intertubular capillaries forming the plexus, become obliterated at points, while in others, they are in all stages of contraction, being choked off by the new tissue formation. It is easy to comprehend, therefore, that the outward current of blood from the glomerule, is very seriously retarded, as it is more readily assailable from its large number of branches than that of the single larger afferent arteriole, coming off as it does directly from the trunk of the interlobular artery. We thus perceive, that the blood is dammed back upon the glomerular tuft, which raises the ten-

sion especially high within these vessels. That this is no mere theory, has been proven by Dr. Dickinson, who found, upon experiment, that the granular kidney permitted much less water to pass through its vessels under pressure, than the normal organ.

It is likely that still another factor operates in the case of renal cirrhosis, to increase the intra-vascular pressure, within the glomerule, namely, the thickened capsule of Bowman.

Thus we have in the advanced stage of renal cirrhosis, both the increased force of an extra powerful contraction of the heart, on the one side, of the glomerule, and counter to this, an impeded current on the other, exerting a backward force, owing to obstructed capillaries, and these two forces meet in the glomerular tuft of vessels, and thus we have all the conditions requisite for producing transudation of albumen as well as the secretion of a copious amount of urine, of low specific gravity, all of which are the accompaniments of advanced granular kidneys, *but not till the disease is advanced.*

Having shown that albuminuria can never be relied upon as an early symptom of chronic Bright's disease, and given at length the physiological and pathological reasons therefor, as well as referring to a large collection of clinical and autopsical proofs thereof, and moreover having traced it to its philosophical and pathological cause, when it does occur; it now remains to ascertain, what are the symptoms which, taken individually and collectively, may be relied upon to establish an earlier diagnosis of the disease.

So large a proportion of the profession has become wedded to the old teachings, that albuminuria forms the hinge upon which the door to renal disease has ever been opened, that I apprehend it will be easier to explain facts, with philosophical reasoning, than it will be to do away with preconceived ideas,

or break down old traditions. I am unwilling to believe, however, that a disease so widely influencing in its pathological results, undermining as it does so many of the vital processes of the economy, can approach so silently through years of development, without leaving behind some imprints, which if properly interpreted must reveal its footsteps.

First, then, let us glance at some of its more important etiological factors, for to know disease best is to first know its cause. It has been frequently pointed out that renal cirrhosis occurs most often in people who have lived very generously, partaking of highly seasoned and flavored meat diet; in short, they have been over indulgent in the pleasures of the table. It is the function of the kidneys to eliminate from the system nitrogenous waste, whether this be from the tissues or the food, or from both. We have here then a very direct cause of increased work thrown upon the kidneys, and the result is that extra activity of renal function is called for.

Notice next, that renal cirrhosis is most often developed after middle age. Statistics show that the largest number of cases occur between forty-one and fifty years of age, and the next largest between fifty-one and sixty. Thus, as a rule, it is a disease of middle and advancing life. Why is this? To my mind, Fothergill best answered this question, when he said: "The diseases incident to advancing age are those which arise through inability of the system to get rid of its waste products." Here then we have two powerful determining causes of disease, whose especial foci is the kidney: a demand for increased functional activity, and a diminished functional power.

Gout, rheumatism, free use of alcohol, and the absorption of lead into the system, as well as some other factors may, and doubtless do, act as accelerating or predisposing causes; but to

my mind, around the two conditions, advancing age and ingestion of foods which leave behind the maximum of nitrogenous waste, clusters most of the phenomena of the disease, in its causative relations, and the more closely this is kept in mind, the more readily will be understood what I shall have to say of the symptoms which accompany it.

Heidenhain has shown conclusively by his beautiful experiments with indigo injections into the circulation, that the solid elements of the urine are excreted by the epithelium of the convoluted tubules. We have through heavily charged nitrogenous foods, a very material increase of work thrown primarily upon the epithelial cells of the convoluted tubules, and at a time when the functional power of such cells are on the wane, from advancing age. The cells, thus both over-taxed and crippled, become in time functionally impaired, and are unable to meet the demands made upon them. We have previously shown that necrosis of the cells does not result directly, but the impaired function is made known through the retention of those products in the system which it was their province to eliminate, and which, thus accumulating in the system, result in certain derangements and symptoms which we shall next consider.

THE CUTANEOUS SYSTEM.

One of the earliest manifestations of chronic Bright's disease is pallor of the skin. It is pretty uniformly present in quite early stages of the disease. In some well nourished individuals, it is true, the disease does not make sufficient impress upon the blood to cause this loss of color in the skin till well advanced; but taking the average of cases, as we find them, it may be laid down as the rule that a suspicious pallor and unhealthy color of the skin is present, and we may often note this condition before albumen is discoverable in the urine. The

peculiar pallor referred to is not the pronounced anæmic whiteness exactly which we meet with in acute Bright's disease, on the one hand, nor yet the semi-bronze-like hue, due to malignant cachexia, but it is rather an intermediate tint. Dickinson says: "It is somewhat of the *pallor luteus* somewhat anæmic appearance, though a sort of sun-burnt tinge upon the skin prevents the whiteness characteristic of the acute form, a dirty, faded hue."

Defective perspiration is also a common accompaniment of early cirrhotic disease, and this results in a dry, harsh state of the skin. This is probably due to two causes: compensatory elimination through renal incompetency, and perhaps later on to hypertrophy of the muscular walls of the small arteries of the skin, interfering with the nutrition of the latter.

Other cutaneous symptoms may arise, as erythema, or acne rosacea, but these are more likely to occur later in the disease.

THE MUSCULAR SYSTEM.

One of the earliest noticeable accompaniments of chronic Bright's disease, is usually diminished muscular power. The patient experiences an unaccountable disinclination for muscular exertion, and is easily tired. He walks less, and rides more frequently than is his usual custom, when he finds it necessary to go about. A weary feeling is experienced in the muscles, and he perhaps goes to some watering place to seek rest from business, which latter, he imagines has over-taxed his strength, but he returns unimproved.

More or less emaciation is likely also to be present, though this latter does not always obtain, and, in some cases, it is conspicuously the opposite.

THE DIGESTIVE SYSTEM.

It is well known that all forms of Bright's disease are accompanied more or less by dyspeptic symptoms, at some stage of

their progress. In the form under consideration, however, dyspepsia has been noted as one of its very earliest symptoms. Dr. Geo. Johnson has observed a flatulent dyspepsia, with nausea and occasional irregularity of the bowels, to precede renal cirrhosis so frequently, that he even regards it as one of the causes of the disease. He thinks the kidneys become deranged in such cases, in consequence of their long-continued elimination of the products of faulty digestion. Be this as it may, the fact is notorious, that flatulent dyspepsia *precedes*, for a longer or shorter time, in a large number of these cases. In two cases which came under my own care, it was the first symptom which led both patients to seek medical advice, and for that which they both supposed to be simple disorders of the stomach. In one of these cases, no albumen could be found in the urine till over a year after the first dyspeptic discomforts appeared, and the latter continued, off and on, till albumen finally was discovered in the urine in small traces.* In the second case, albumen was found in the urine on first consultation, but it has been occasionally absent in the course of the disease since. Loss of appetite is an early and persistent characteristic of the disease. Nausea frequently accompanies the dyspepsia of renal cirrhosis, and when it does, it is most frequently complained of in the morning, before food is taken. Irregularity of the bowels completes the round of digestive disturbances which are the outgrowth of this disease. Constipation being the most frequent departure, and I have noted this early in those cases in which heretofore the patient had congratulated himself on most scrupulous regularity, throughout his preceding life.

THE RESPIRATORY SYSTEM.

Dyspnœa is a frequent symptom of renal cirrhosis. It may

*Subsequent autopsy revealed granular kidneys.

exist in various forms, and it may be one of the first symptoms which attracts attention, or, it may not appear till ushering in œdema of the lungs, which closes the life of the patient. In the latter case, probably only in advanced stages of the disease. We may have dyspnœa coming on quite early in the disease, simulating asthma in many respects, especially in its more frequent prevalence at night. Some look upon it as an eliminative effort of the lungs. Others regard it as of cardiac origin, or at least due to cardiac disturbance. Bartels and Dickinson seem to regard the attacks as uremic, Rosenstein denies this, and Johnson speaks of them as nervous dyspnœa, of uremic origin. Whatever may be its cause, it simulates asthma closely, coming on suddenly, usually at night, accompanied by sibilant râles, and followed by more or less watery expectoration.

I am aware that many authors regard this dyspnœa as a symptom only accompanying the advanced stages of the disease. But that it may occur comparatively early in the disease, I am equally positive, as the following case has shown me. A case came under my observation in which the patient complained of dyspepsia, and attacks of short breathing, coming on at night. High vascular pressure, and other symptoms pointed to granular kidneys. The dyspnœa became much worse after a few days, indeed, in one of the spasms which I witnessed, I never saw more distress or anxiety depicted in the countenance of a truly asthmatic patient. Under diaphoretics and purgatives, these symptoms subsided, and the patient had no recurrence of them. Eight months afterwards he succumbed from outside causes, and the autopsy revealed granular kidneys by no means advanced, each organ weighing slightly more than five ounces. In another instance, three years since, that of a well-informed physician, who served in his professional

capacity through the late war. He had noticed some declining health, but the first symptoms which aroused his attention, was an asthmatic attack at night, followed by others, which led to to the discovery of renal cirrhosis from which he subsequently died. It may be said, that there is no proof in the last case that the disease was not advanced, and while this is true, yet it was the first symptom which aroused any suspicions, and if no symptoms are observable till dyspnœa overtakes the case of a medical man, how much more likely is it to be the case with our patients?

That the mucous membranes are especially prone to irritation in the early stage of renal cirrhosis, we have already seen in the case of the digestive tract. It is equally so with the respiratory tract. Bronchial catarrh has been frequently noted by various authors as preceding or accompanying the granular kidney. The late Dr. Mahomed regarded this as one of the early results of high vascular pressure, which, in some instances led on to pneumonia, in people of advanced age, before they were overtaken by the renal disease. Pharyngeal or naso-pharyngeal catarrh, is another evidence of disturbance of the respiratory tract, which may often be observed in early cirrhosis; and, lastly, I would mention, the frequent occurrence of emphysema of the lungs in these cases.

THE VASCULAR SYSTEM.

Of all the disturbances which arise in the course of chronic Bright's disease, those of the vascular system are among the *earliest, most constant,* and give us, when properly interpreted, the most important information. If the theory which we have advanced as to the etiology of the disease, and supported thus far by pathological evidence, be correct, then the first consequence which results from the disease, outside of the kidneys themselves, must fall upon the vascular system. And it will

be found on following its pathology a step further, that the deduction will be confirmed.

Dr. George Johnson pointed out* certain interesting and constant anatomical changes, which occur in the minute arteries in cases of granular degeneration of the kidneys, consisting of thickening, and hypertrophied growth of their muscular walls. He showed that both the circular and longitudinal muscular layers of the small arteries constantly participated in this hypertrophic development, but that the veins do not share in this change. Dr. Johnson regards this change in the walls of the small vessels as due to the resistance offered in the capillaries to the circulation of abnormal blood. He says: "The minute arteries, by their contractile power, under the influence of vaso-motor nerves, now regulate the blood supply in accordance with the diminished requirements of the glands. This regulating contraction continues and increases, month after month, year after year, and the physiological result of this persistent over-action of the minute arteries is that their muscular walls become hypertrophied." He refers the hypertrophy of the left ventricle of the heart (so constantly accompanying this disease) to a similar cause, for he adds: "The minute arteries throughout the body (of course under the influence of vaso-motor nerves) resist the passage of this abnormal blood, and in consequence the left ventricle beats with increased force to carry on the circulation. The result of this antagonism of forces is, that the muscular walls of the arteries, and those of the left ventricle of the heart become simultaneously hypertrophied."

Gull and Sutton, later on, claimed, 1st, "That there is a diseased state of the arterioles and capillaries in this disease, characterized by increased growth in the outer fibroid coat, or

*Medico-Chirurgical Transactions, Vol. xxxiii.

tunica adventitia, which they termed *arterio-capillary fibrosis.*"

2d. "That this change in the arterioles and capillaries is the primary and essential condition of the morbid state called chronic Bright's diseases with contracted kidney."

3d. "That the morbid state under discussion is allied with the conditions of old age, and its area may be said hypothetically to correspond to the *area vasculosa.*"

4th. "That it is possible that this change commonly begins in the kidney, but that there is evidence of its beginning primarily in other organs, and finally, that the contraction and atrophy of the kidneys are but a part and parcel of the general morbid change."

In the light of subsequent investigation, the only one of these propositions of Gull and Sutton which remains tenable is the existence of fibroid change in the small vessels, *not to the exclusion of*, but in addition to, the muscular hypertrophy.

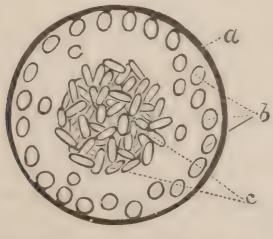
That the cardio-vascular changes are dependent directly upon renal deficiency, is shown, 1st, by their constantly accompanying all forms, even scarlatinal, of that deficiency, if only it continues long enough, or the patient survives a sufficient length of time; and this becomes another proof, that in cirrhotic kidney the functional incapacity of the organ may long exist before it is made known by very active general symptoms.

2d. That the occasional existence of the disease in children, in which cases all the typical cardio-vascular changes accompany it, completely disproves the second, third and fourth propositions of Gull and Sutton, and moreover, furnishes the very strongest evidence that the cardio-vascular changes are subject to the renal disease, as their primary, unvarying, and constant cause.

Professor Hamilton, of Aberdeen,* has formulated the laws,

* "On the Circulation of the Blood Corpuscles Considered from a Physical Basis."—Journal of Physiology, Vol. v., No. 2.

which govern the circulation of the blood corpuscles in the vessels, in the most lucid manner, and demonstrated their correctness by means of a series of interesting illustrations. These consist in passing a current of water, containing bodies of varying sizes, shapes, and specific gravity, through glass tubes, which thus imitate the systemic circulation. He first calls attention to the fact, that the blood current consists of an axial and peripheral stream, and that "the colored corpuscles float exclusively in the axial stream, while a great many, not all, of the leucocytes run in the peripheral."



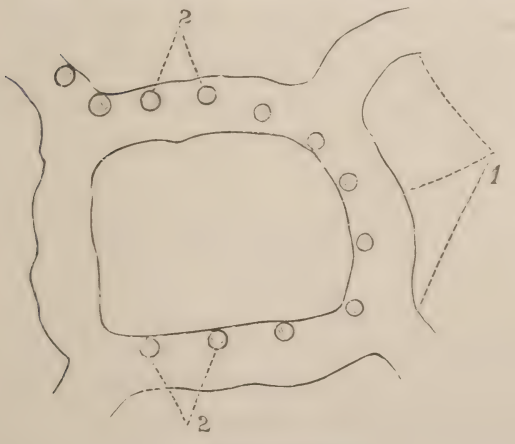
a Vessel wall.

b White corpuscles in peripheral stream.

c Red corpuscles in axial current.

He demonstrates clearly the following among other laws by practical experimentation:

1st. "That if a sphere is specifically lighter than the liquid



1 Web of frog's foot

2 White blood corpuscles.

After Hamilton.

in which it is suspended, it will sooner or later come to occupy the upper strata, and will rotate."

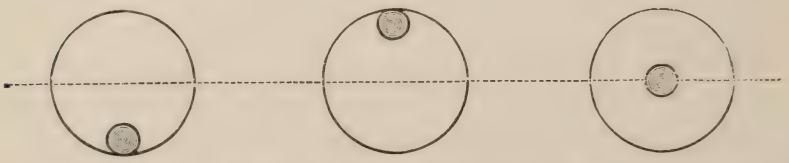
Now this is precisely what the colorless corpuscles do in normal conditions of the blood, as may be demonstrated by observing the circulation in the frog's foot, viewed horizontally by means of the microscope. The white corpuscles will be seen to roll along the upper surface of the vessels, because they are lighter than the blood plasma in which they move.

2d. "That a disc or sphere of the same specific gravity as the liquid in which it is immersed, moves in the axial stream, and *does not rotate.*"

This explains why the red corpuscles, as they are of the same specific gravity as that of the blood serum, occupy the axial stream of the vessels, and do not rotate as do the colorless ones, but *glide.*

3d. "Spheres, or discs, whose specific gravity is greater than the fluid in which they circulate, move in the lowest strata of the tubes, and *roll*, or rotate."

Thus it will be noted, that bodies which depart from the specific gravity of the fluid in which they circulate, occupy the peripheral stream and rotate as they move; while those which do not depart materially from the specific gravity of the circulating fluid, move in the axial stream, and do not rotate, but glide.



Other laws are formulated and illustrated in the same paper bearing on the size, weight, and rapidity of motion, as the bodies occupy the axial, or peripheral stream, and the fact is noted, that the colorless corpuscles evince a tendency to

stagnate, or clog in places, especially at the curves of the tubes. I have gone over these experiments with Professor Hamilton in his laboratory, and I know that the laws which he formulates do not rest on any mere theoretical basis, but are amply borne out by his interesting and instructive demonstrations. Professor Hamilton thus sums up this matter: "The cause of a colorless corpuscle blocking the tube undoubtedly is, that its light specific gravity tends to press it upwards against the wall of the vessel, to which it may become temporarily adherent. From this we may learn an important lesson, namely, that if the colored corpuscles were not so balanced as to closely approach the specific gravity of the plasma, the circulation would become a physical impossibility; for if they were specifically lighter or heavier than the plasma to a marked degree, there would be a constant tendency for them to obstruct the capillaries and to hinder the onward flow. The essence of the blood circulation is that the large majority of the corpuscles never touch the wall of the vessel, but glide in the central stream. Were the colored corpuscles to rub against the wall of the vessel, the friction would be so enormous over the whole capillary system that the heart, as at present constituted, would be wholly inadequate to drive the blood onwards. Indeed, my own impression is that if the blood corpuscles all differed materially from the specific gravity of the plasma, the circulation could not be carried on even with a much more powerful heart."

Now, what is the actual condition of the blood in cases of granular degeneration of the kidneys? From the various sources from which I have been able to get statistics, I have estimated, roughly, that the blood is about ten per cent. more hydremic in cases of renal cirrhosis, than in the normal condition. It must not be forgotten, that other circumstances in-

fluence the deviation from the normal, in this disease, but all observers agree that it is somewhat lighter than in health. My own calculation from the few tables I have been able to find, places the average specific gravity of the blood serum in renal cirrhosis at 1025.5. These estimates, in the light of Professor Hamilton's researches, teach us, to say the least, a very probable explanation of that interesting and important series of cardio-vascular changes, which so uniformly accompany the granular kidney.

Not only may the loss of balance between the plasma and corpuscles call for more muscular development in the fibres of the heart, resulting in hypertrophy of the ventricle, but if also, as Professor Hamilton points out, even a part of the red corpuscles of the blood are forced into the peripheral stream, they may by their friction against the vessel walls be the source of an irritation, which gives rise to the degenerative changes therein.

It has occurred to me that Professor Hamilton's laws may explain a phenomenon which is often present in renal cirrhosis, and which, heretofore, I have never been able to explain satisfactorily to myself. I refer to the singular circumstance that in such cases the patients often pass much larger quantities of urine at night than in the day time. It now seems plain enough to me, that if the blood plasma is reduced in density, when the patient assumes the recumbent position more of the red corpuscles gravitate into the peripheral stream, and the extra friction induced thereby, calls for more force of the heart, and thus the intra-vascular pressure becomes high, and this latter we know always increases the quantity of urine.

We may not as yet be able to comprehend all the causative relations of these vascular changes, but we are very certain of one fact, namely, that increased intra-vascular pressure and

high tension of the vessel walls are the most constant of all the early symptoms of this disease. As indications of these conditions, I would call attention to the character of the pulse, which is hard, unyielding, and rolls under the finger like a cord. The pulse is notably prominent under the finger in chronic Bright's disease. But high pressure of the vessels is estimated much more accurately by means of the sphygmograph, and hence this instrument has proven of the greatest value in pointing out the true condition of the circulatory apparatus in chronic Bright's disease.

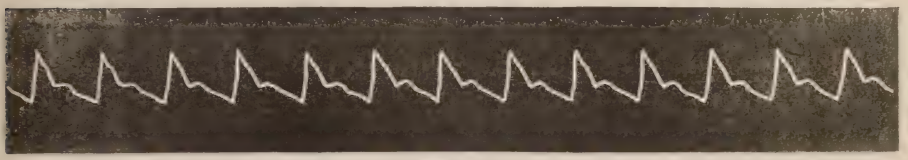


Fig. 5.

Fig. 5 is the pulse tracing of a healthy man, under three ounce pressure, and may be fairly said to represent the usual pulse tracing by the sphygmograph, in perfectly healthy conditions of the heart and vessels.

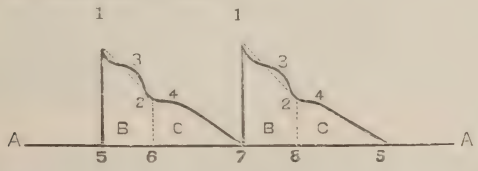


Fig. 6.

Dr. Mahomed estimated high tension as follows: First. "A line must be drawn from the apex of the up stroke, 1, Fig. 6, to the bottom of the aortic notch, 2. No part of the tracing should rise above this line; if it does, then the pulse is one of high pressure." Second. "The height of this notch is another good gauge of pressure, the higher it is from the respiratory line AA, the higher is the pressure; the nearer it approaches the respiratory line AA, the lower is the pressure." The

length of the systole of the heart, 5 to 6, Fig. 6, compared with that of the diastole, 6 to 7, is also considered a gauge of high pressure. In normal tracing the length of the systole, as marked on the respiratory line, AA, Fig. 6, should be about half as long as that of the diastole. In conditions of high pressure, the systole is lengthened, in some cases exceeding the length of the diastole.

I think it is unfortunate that the terms high tension and high pressure have been so much confounded with each other by nearly all authors.

I consider a pulse of high tension one in which the vascular walls are rigid and inelastic from organic change. It may or may not include high vascular pressure. The term high pressure I define as increased intra-vascular force, coming from increased power of the heart, or resistance in the capillaries.

Dr. Byrom Bramwell* says: "I am in the habit of considering a pulse of *high tension* as synonymous with a *strong pulse* and *vice versa*, a pulse of low *tension*, with a weak pulse."

Now, the above does not by any means follow, as I will illustrate. Fig. 7 shows the pulse-tracing of a patient of mine, taken March 8th, whose case I had diagnosticated eight months previously as cirrhosis of the kidneys.

Fig. 7. 4 oz. pressure.

It will be observed that this tracing shows in a marked manner the characteristics of high tension. The tidal wave is sustained above an imaginary line from apex of percussion stroke to

*"Students' Guide to the Examination of the Pulse and use of the Sphygmograph, 1883."

the bottom of the aortic notch. About two days after this tracing was taken, March 11, the patient was suddenly seized with gastric hemorrhage, losing a large amount of blood (over a pint) the first twenty-four hours. The hemorrhage continued interruptedly, sometimes ceasing for a day or so, till March 26, when he died, at 3 A. M., from direct loss of blood.

The autopsy revealed granular kidneys, though not advanced to contraction, atheromatous arteries everywhere, including that of the aorta. No appreciable hypertrophy of heart. Behind pylorus of stomach a scirrhous mass, which latter doubtless was the cause of the hemorrhage.

Now, no one will pretend to claim that high intra-vascular pressure could be present after the first great loss of blood, much less as the hemorrhage progressed day after day, till the patient died from anæmic exhaustion, yet it will be noted throughout that the tracing maintained the usual characters of high tension, even when the characteristics of high pressure were abolished and the pulse became somewhat dicrotic. Nor

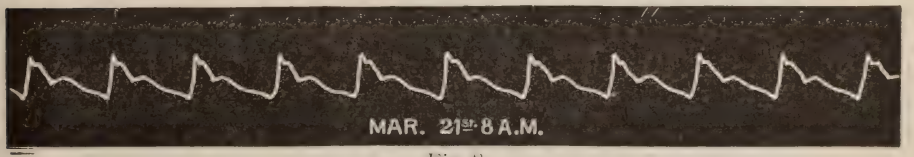


Fig. 8.

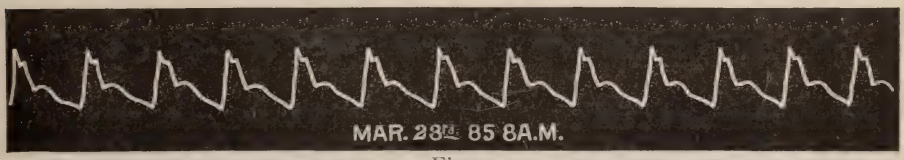


Fig. 9.

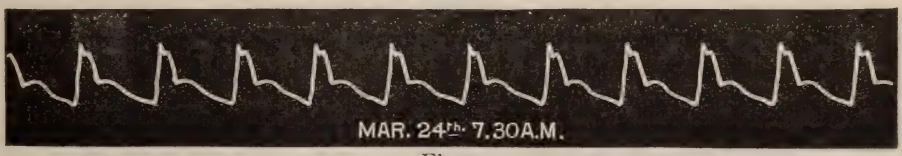


Fig. 10.

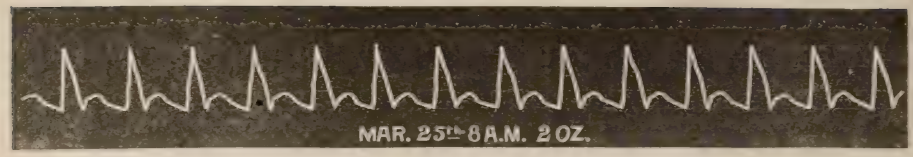


Fig. 11.

were the indications of tension lost till the pulse became even hypodicrotic, as shown by the tracing of Fig. 11, taken a few hours before death.

This case has shown me that we may have tension or rigidity of the vessel walls, with very ordinary, or indeed low intravascular pressure. High tension, then, is due to rigidity of the vessel walls, from atheroma, or allied conditions, and it is presumptive evidence of chronic Bright's disease. I may state that I have never failed to find the characters of high tension in the tracing of a patient's pulse in renal cirrhosis, no matter how early the form. It is not positive evidence of chronic Bright's disease, because we have atheroma aside from Bright's disease sometimes, and if we can separate the causes, it will give us pretty positive evidence.

High pressure includes high tension, and is due to powerful and prolonged contraction of left ventricle of the heart, frequently with hypertrophy of the latter, and as such is almost pathognomonic of chronic Bright's disease.

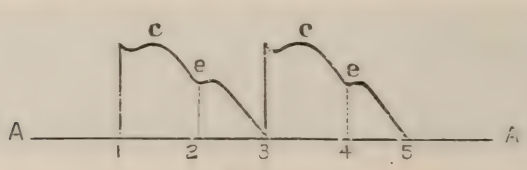


Fig. 12.

Fig. 12 shows the characters of the tracing of high pressure. The prolonged systole, 1 to 2, and 3 to 4, as compared with the diastole 2, 3, and 4, 5. It shows also the high and sustained tidal wave c. c., and the aortic notch e. e., high and well away

from the respiratory or base line A. A. For comparison with characters of tracing in simple high tension, see fig. 6.

The late Dr. F. A. Mahomed collected the records of sixty-one patients, treated in Guy's Hospital during the years 1879 and 1880, for chronic Bright's disease. They possessed the following characters: "*They all had the signs of high arterial pressure.* They all had very considerable hypertrophy of the heart. *In all cases the urine was free from albumen at some time while under observation.* In eleven cases albumen was present on one or two rare occasions during a long period of observation. In three cases, though absent during long periods of observation, it occurred just previous to death; in three other typical cases of Bright's disease, the patients were admitted with albuminuria, which disappeared under treatment, and they left without it. Three cases had urine very variable in its character, sometimes albuminous, sometimes not. In the remaining forty-one cases, *albumen was never discovered in the urine.*" It may be added that in *all* these cases daily observations were made. The quantity, specific gravity, solids, and albumen present in the urine, were appended.

It is the rule, then, that high arterial pressure invariably accompanies chronic Bright's disease, and that it precedes the albuminuria.

Dr. Mahomed found high pressure to precede the disease so invariably, and in some cases so long, that he was led to believe that it was the *cause* of chronic Bright's disease, at least in some cases. I cannot believe that this view is in keeping with the clinical history or pathology of the disease, and moreover, if it were correct, bleeding and purgatives should arrest the disease.

Epistaxis of an obstinate character is another symptom of chronic Bright's disease to be ranged under those pertaining to

the vascular system. It also is due to degenerated vessels, and high arterial pressure, which accounts for its obstinacy. In some of my cases, inquiry into their history has revealed the occurrence of an obstinate attack of bleeding from the nose very early, and I attach considerable importance to such occurrences. Epistaxis, due to renal causes, may sometimes occur, as far back as two or three years, or more, before any appreciable symptoms of the disease are manifest. Vertigo is also one of the early symptoms which is well to note the import of. It may be so pronounced that the patient may fall in walking, as was the case with one of my patients more than once before its cause was made out. Tortuous arteries, as the radial and temporal, quite uniformly accompany renal cirrhosis and are manifest quite early. I have noted small aneurisms of superficial arteries, particularly in the wrist and neck, as sometimes present. I have not seen this noted in the literature of this disease, but it has occurred in my cases often enough to call my attention to it as a sign. The *superficialis volæ*, in the wrist, and small branches of the external carotid are the most usual seat of these small aneurismal sacs, according to my observations.

THE NERVOUS SYSTEM.

Valuable as are the symptoms referable to the vascular system in an early diagnostic point of view, those of the nervous system are scarcely less so. Among the most important of these are retinal changes and visual disturbances.

Retinal changes are often the first symptom leading to discovery of the disease. Bartels says: "Very often some disorder of vision, provoked by the specific structural change that has taken place in the retina, forms the first event that attracts the patients own attention. No small number of my patients first went, on account of their eyes, to my colleague Voelckers, and were first induced by him to place themselves under med-

ical treatment, which they were not aware they needed." The frequency of these retinal changes in the course of renal cirrhosis are such as to constitute them important occurrences to note. Eale's* statistics, founded on observations of the *fundus* in one hundred cases of granular kidneys, show the presence of retinal change in twenty-eight, or one in three and a half.

Gowers says: "The retinal disease presents certain elements which are variously combined in different cases. These are (1), diffuse slight opacity and swelling of the retina, due to œdema of its substance; (2) white spots and patches of various sizes and distribution (fan shaped), due for the most part to degenerate processes; (3) hemorrhages; (4) inflammation of the intra-ocular end of the optic nerve; (5) the subsidence of inflammatory changes may be attended with signs of atrophy of the retina and nerve."

The degenerative is the most frequent form, beginning in small white spots, which spread out in fan shape near the *macula lutea.* This leads to impairment, *not complete loss*, of vision, and comes on slowly, and is rarely, if ever, completely recovered from, though improvement is common. The hemorrhagic form comes on very suddenly, as a rule, and often results in total blindness. It may be recovered from completely, or induce inflammatory changes.

Gowers has made the important observation† that in many cases of chronic Bright's disease, there is to be seen a notable diminution in the size of the retinal arteries, *independently of the existence of any special retinal disease.* He says: "The veins are in such cases not larger than the normal, but the arteries are *not more than one-half, or even one-third, the diameter of the veins*, instead of being two-thirds, or three-quarters

*Birmingham Med. Review, January, 1880.

†British Medical Journal, Dec. 9th, 1876.

the diameter. The comparison must be made between arteries and veins which run side by side, and correspond in distribution." I regard the above discovery as only second in importance to the indications afforded by the sphygmograph in cases of chronic Bright's disease.

Other symptoms of nervous disorder are more or less frequently present in early cirrhosis. Neuralgia is perhaps the most common. It is most often occipital, but may be temporal or vertical. In patients, without previous history of neuralgia or assignable cause, it is important to note such symptoms. Insomnia is frequent, and marked in a large number of cases.

THE URINARY SYSTEM.

Often the first symptom that the patients notice is that they get up at night to urinate. This, as I have previously noted, is because more urine is secreted at night than during the daytime. Usually before the urine contains albumen, if observed it will be found of high specific gravity, say from 1.020 to 1.035. And here I would insist, that the specific gravity of any single specimen of urine, unless it be a part of the whole twenty-four hours' quantity, is entirely valueless from a diagnostic point of view. The urine must be saved during the whole twenty-four hours, and the specific gravity compared with both the normal gravity and quantity. If found constantly much over 1.020, the fact becomes important. The urine throws down, as a rule, numerous envelope-shaped crystals of calcium oxalate, and also uric acid crystals; in fact, the urine is often loaded with urates in these cases. Lastly, the urine may give the blue color reaction with peroxide of hydrogen solution and tincture of guaicum, showing the presence of blood crystalloids. This latter is important when present, but it is not so constant as the others. Such, in the main, are the symptoms most likely to be met with in the pre-albuminuric stage of chronic Bright's

disease. Our diagnosis is rather to be sought through their collective than individual study, for it is only upon a thorough comprehension of all the phenomena surrounding the morbific changes of this disease, that it becomes possible to penetrate its varied symptomatology during its incipiency.

All life, and growth is influenced, not only by the soil or pabulum which sustains and nourishes it, but also, by the inherent qualities of the seed or germ from which it sprang; so with disease and decay, not only are they maintained by the lesion of the individual organ, but also influenced by inherent inherited qualities; they follow no stereotyped laws of symptomatology in all cases, but the first manifestations become apparent in this location in one case, and in the next location in another, as one or the other part of the organism is inherently weak, or has been unduly taxed. Chronic Bright's disease is no exception. In one class of patients, the results of impaired renal function will first fall upon the circulatory system, while in another, it may be on the nervous, the respiratory, the digestive, or the urinary system itself. Our diagnostic conclusions should hence be drawn, not alone from the local symptoms, as perhaps has been too much the custom, for if we wait for marked evidences of impairment here, the disease will often escape detection till the anatomical changes become so far advanced that the disease will be practically beyond the reach of medication. The textural changes, from their very nature, are such, that when once thoroughly engrafted upon the organ, their removal is not within the compass of the present state of medical science, and hence our only hope of arresting this disease, must rest on its discovery during the functional stage. If, fortunately, I shall have contributed in any way to the elucidation of the latter question, the object of this paper will have been accomplished.

163 State Street.

ARTICLE II.

A CASE MOLLITIES OSSIUM. *By* W. J. WEBB, M. D., *of Chicago.*

[Read before the Chicago Medical Society, March 2nd, 1885.]

The etiology and pathology of this disease is very obscure and its clinical history meager and contradictory. So far, the most positive information we have upon the affection has come to us from Europe, the valleys of the Rhine and Po seeming to furnish the most examples. Yet the knowledge thus obtained is so varied, and the reports so contradictory, that it is far from being conclusive or satisfactory. That it often bears some relation to the pregnant state, though, is probable. Debossati, of Milan, claims to have treated no less than sixty-two cases, for deformities of the pelvis, caused by malacosteon, during a period of eighteen years. They were all women who came from districts where pellagra and typhus were most prevalent. This statement is strengthened by the collection of the records of one hundred and forty-five cases by Mr. Durham, who says that of this number one hundred and thirty-two were women, and that ninety-one of them were attacked during pregnancy or shortly after childbirth, and that the majority of them were between twenty-five and thirty-five years of age. This corresponds somewhat also with two cases reported by Dr. Bush in the *London Practitioner*, 1883. As has just been intimated, the social habits and character of the food may play an important part in the predisposing causes. The sixty-two cases referred to by Debosati came from wretched villages, where their food consisted mostly of maize or rice, and that often musty. The rooms in which they worked were filthy and badly ventilated. These unfortunate surroundings and circumstances, added to the character of the water, and the meager subsistence with which they eke out an existence,

Debossati supposes to be largely concerned in the production of the disease.

Agnew says that rickets, struma syphilis, miasmatic emmenations, rheumatism, dampness and food deficient in certain universal substances have all been invoked in explanation of the morbid change. In some few instances, as in one given by Dr. Omerod (in the *Medical Record*, in Sept., '57), the disease seems to be hereditary. Mental disease, aliment poor in saline constituents of bone, have also been mentioned as exercising a determining influence. The testimony in reference to the condition of the renal secretion in this malady, while it has brought us a step nearer in our investigation, has been so limited and contradictory, that nothing very satisfactory has been obtained from this source. That this secretion has usually presented marked alterations in quality and appearance, is generally, I think, admitted; yet there are some few cases, we are told, in which no apparent deviation whatever from the healthy constitution of the urine is observed during the course of the disease. The older writers described to us a copious deposit of a white, chalky-like substance that was found upon evaporation or cooling; this, later and more thorough investigations have shown to consist mainly of phosphate of lime. Now, while this discovery would at first thought seem to furnish us a key to the solution of this abnormal metamorphosis, I think that upon more deliberate consideration it will be seen that we are nearly as far from the real cause as we were before the revelation was made. Being convinced that these lime salts have been removed from their proper relations in the bones and then finding them in their disintegrated state on the glass slide or in the test tube, only convinces us that they have been eliminated and indicates to us the means by which it was done, but it does not in any way intimate to us with any degree of

certainty the cause or causes that were instrumental in originating and perpetuating this destructive process. Some pathologists tell us that the earthy matter in the hyaline matrix is first dissolved, thus reducing the compact bony structure to a condition akin to the original cartilage; that as the disease advances this substance is disorganized or dissolved, and these heterogeneous masses that have been variously described as fatty, jelly-like products, are the result of these changes. The venerable John Hunter considered these changes simply a fatty degeneration and Paget seems to give credit to the same opinion, saying that the pink color of the medullary substance is due to the bright tints of a part of the oil globules and of the nuclei and granules in the bright-colored fat cells; and that there was no appearance of an excess of blood in the bone or any part of its contents. Holmes says, quoting from the *Medico-Chirur. Transactions*, that the diseased tissues consisted simply of an organic matrix, with a little earthy matter, and containing a little fat; hence it is impossible to describe the disease as simply fatty degeneration. But the authorities who have had most to say upon the pathology of the disease, and whose professional standing and scientific research render their opinions worthy of our careful consideration, are Virchow and Rindfleisch. And still they do not agree; Virchow claiming that the first stages of the abnormal vital processes are essentially that of hyperæmia, and that the medullary substance is reduced to a condition identical with the fœtal marrow, and that it is caused by the presence of lactic acid in the parts, while Rindfleisch says the condition is not one of congestion or hyperæmia, but an extravasation of blood in the part, and that the medullary substance resembles more nearly the tissue of normal spleen, and that the disintegration is caused by the presence of carbonic acid in the parts.

McNamara says: "We can, however, form only an imperfect notion of the pathology of the disease until we examine sections through the extremities of the bones which are still comparatively healthy; here we find the articular cartilages in places unaffected, the ossification is progressing in a very perfect and orderly manner, but the cancellated tissue a short distance from the cartilage is filled with round cells; in other places composed of a fine fibro-cellular material similar to that of cartilage when it has undergone fibroid degeneration and broken down into a cavity or ulcer. In some sections we see the cells of the articular cartilages undergoing very peculiar changes, each of the original cells breaking up into a nest of cells, which individually resemble the blood globules of a fœtus. In fact, it seems as though the early stages of the disease existing in these specimens are nearly related to the condition noticed in cases of lympho-sarcoma: the cells of the medulla, from some obscure cause which we do not understand, have failed to perform their functions, their tendency under the circumstances being to revert to their cartilaginous prototype, as though there were something defective in the living matter of the blood. Presuming that the sound cells of the medulla are organisms, the outcome of the cartilage and blood cells in the disease, we are considering, the living matters of the blood being defective, the inherited tendency of the cartilage cells predominate, and so the medulla, in place of building up new bone to replace that which disappears in the course of disintegration, breaks up into a lowly organized fibroid structure and subsequently degenerates into a fatty substance such as that which we see filling the cancellated structure of the bones."

This excellent and ingenious investigator of this subject concludes that the cases of osteomalacia may be divided into three classes:—

First. Those due to carcinomatous or sarcomatous disease of the medulla.

Second. Those due to an affection of the medulla allied to lymphoma.

Third. Those due to some peculiar condition of the medulla or perhaps of the blood, dependent on the state of pregnancy.

This, to my mind, covers the ground as intelligently and completely as anything I have seen; yet it seems to me that there must be a condition of the nutritive fluid not connected with pregnancy that predisposes to these various changes in the medullary cavity. Whether it is lactic acid or carbonic acid, or both, or something else, I am not prepared to say. The variety of forms in which the disease manifests itself and the various pathological conditions that have already been discovered would indicate that it is often complicated and the diseased processes far from being uniform; and I am inclined to the opinion that in the future investigations of the disease the functions of the nervous system will receive more attention than formerly.

As to the cause of the case, I will endeavor to describe to you, I have no well grounded conviction; but since he dates his symptoms back of the specific disease, and since some of the other members of the family have similar symptoms, it seems to me reasonable to infer that in the predisposing causes an hereditary tendency may have existed, and this, together with his youthful vice, coupled with his spermatorrhœa and erotic temperament, may have been sufficient to induce the albuminuria and a consequent cachexia, which served as a fruitful soil for the ravages of the specific disease, which I think he had in 1876.

The following is a clinical history of a case of this disease

which came under my observation last year, with plates illustrating the external appearances of the body and a part of some of the bones. I have to regret that circumstances forbade my obtaining microscopical examinations of the tissues and secretions.

I was called to visit Mr. G. about the 1st of August, 1884. I found him lying upon his back, and barring his somewhat labored breathing, to all external appearances comparatively comfortable, and judging from the looks of his face one would say that he was well nourished; but upon removing the covering from his body I found it presented quite a different aspect. His right arm was bent and broken, as were his femora. The anterior part of the chest wall was directed forwards and upwards, and by placing my hand upon it I could distinctly feel what to the sense of touch reminded one of a counting abacus under the skin, so nodulated were his ribs.

At this visit my attention was directed to the most peculiar effects of the disease I noticed during the time he was under my observation. It consisted in what seemed to be the separation of the left supraorbital ridge. He said it was loose, and taking hold of it I found it was detached from the continuous bony structure, and when it was moved the patient said he could hear a grating noise. It soon afterwards partially united, as did many of the other fractures, and remained so until death. The maxillary bones at that time, as were the teeth, were quite firm and unyielding. The joints were generally slightly enlarged and irregular in outline. His appetite good. Temperature, 97½° F., circulation, 99, with what I considered an aortic heart murmur. Bowels constipated, tongue slightly coated with a light yellow fur, respiration 22. Urine, in twenty-four hours, 136 fl. ozs; acid, reaction; specific gravity, 1,021, with heavy deposit of phosphates; a trace of

albumen, but no sugar. Microscopical examination was not made. The patient seemed to be a little cyanosed and jaundiced, with some spehorrhœa, especially of the scalp and hairy parts of the body, accompanied also with severe itching of various parts at times, which, I think, was due largely to want of proper bathing, I noticed also at this time evidences of specific disease. On the front of the leg there were such characteristic spots and cicatrices as to be unmistakable, as there were also on the arms, shoulders and upper part of the chest. Yet he unequivocally asserted his innocence till the last. His hair was dark and quite normal in appearance; his beard was comparatively thin and confined chiefly to the chin and upper lip. The genital organs were diminutive in size and retracted. On Oct. 6, 1884, I photographed the body,

and noted the following history as given to me by the patient. He was born in Lycoming county, Pa., in 1848, and was brought up as a laborer, being engaged in the woods, sawmills and on the farm. He was of German descent, but his parents were born in this country. His father is living, aged seventy-four

years. Health always poor; suffers from urinary trouble. His mother died at the age of forty-six years—cause unknown. His father's father at sixty years of age, father's mother at nineteen years of age. Mother's father at eighty years of age, mother's mother at fifty-four years of age. Has one brother, aged thirty-one years. Health poor. Has heart and lung disease. Has five sisters, aged as follows: Oldest, forty-five, health not good, has liver difficulty, cannot work much; second, aged forty-three years, health also poor, and is mentally incompetent to perform the duties of life—seems to suffer from melancholia, subjective symptoms much the same as patient's, severe aching in bones. The remaining three aged respectively thirty-nine, thirty-four and thirty, are all living, with rather poor health. About the only vice the patient acknowledged to have indulged in, is that of onanism, which he commenced at the early age of eight years and continued moderately during his youth, but says that he was always very passionate in this particular, so much so that it seemed almost impossible for him to satisfy this appetite after he was married, and that this morbid sensation did not forsake him until a few weeks before I saw him. Said, also, that he often had quite profuse discharges of a milky-looking substance from the penis before or after voiding his urine. This has troubled him at irregular intervals since his youth. At nine years of age he claims to have had a sunstroke, which was probably a convulsion of some kind. Previous to this time he always suffered from indigestion and diarrhœa, during which he passed much undigested food, after which [the sunstroke] he was always constipated. Since his sixteenth year, he has been tired and sleepy, would at times even lie down and go to sleep in the midst of his work; and that heavy lifting always caused pain in his bones. He always had a ravenous appetite, that

was hardly ever satisfied, and drank a great deal of water, coffee and tea, but no alcoholic stimulants. In 1870 or '71, he went to Nevada to work in the woods. There he suffered considerably from catarrh and dryness of the throat. Ate a good deal, and had fits after meals. Remained three months and went to California, where his health seemed to be better, but there his appetite was poor. In 1873 went back to Nevada to work in the mines. There he drank much water that was sweet and it was said contained large quantities of arsenic. At this place he first noticed the eruption on the skin, which he was told was caused by the arsenic. At the same time he had sore throat, and his hair came out. He said, also, that many of the miners suffered as he did, but not so severely. All had more or less of the eruption. After ten months, he was taken away by an uncle, being at the time badly bloated and unable to work. Next day after he was removed he had a severe attack of dysentery, which lasted two weeks, from the effects of which he thinks he never recovered.

In 1875, went back to chopping again, but was obliged to desist, as he could not stand it, having such severe pains in his stomach and bones. Had, also, at this time a very bad taste in his mouth, especially in the morning. Here the eruption was much worse; often it would assume the character of blood boils. During this time he had a tape-worm removed. In 1876, had a severe struggle with a vicious horse, and suddenly felt sharp, shooting pains in various parts of the body; shortly afterwards became very sore all over, had severe deep-seated pains in various places, especially in the arms and thighs. This condition continued with more or less regularity and severity until the summer of 1882, when he gave up work and took to his crutches. In 1877, he was married and has two apparently healthy children, aged two and four years.

His wife appears healthy, but prematurely old. Had another tape-worm removed in 1880. Had his urine examined in 1875 and 1883. In 1875, it was of light specific gravity, and contained albumen. In '83, he passed twelve pounds in twenty-four hours. It also contained albumen. Two weeks before he died, I made a chemical analysis of his urine and found it contained a peculiar albuminoid substance, which would coagulate upon the addition of nitric acid, but would again redissolve by the application of heat. This, I suppose, was the substance described by Dr. Bence Jones and others as the deutoxide of albumen.

During this long history he was treated by many physicians for many diseases, and by those professing as many different faiths. Being once badly salivated, since which time he has not had much to do with the so-called old school doctors. Hence I did not dare mention medicine to him for a long time, but simply allowed him to take his acid phosphates, which he thought was doing him much good. He went to bed finally in January, 1884. Measurement of the body on October 6, 1884: Lower right extremity from symphysis pubis to internal malleolus, 23 inches; to the left internal malleolus, 26 inches; across the femora, just below the great trochanters, 20 inches; right tibia, 16 inches; left, 17½; sternum, 7 inches. The vault of the cranium could be quite easily depressed, and seemed flexible. Total length of body, 52 inches; original length, 68 inches; pulse, normal; respiration 23,—labored; some ascites; appetite good; sleeps well; mind clear and memory good; expresses himself well. October 13, tongue slightly coated, pulse, 102; temperature, 99.10° F.; respiration, 23; appetite good; rests well; mind clear; arms both comparatively useless. After my first visit his right humerus had united sufficiently to enable him to use

it in fanning himself, but soon afterwards the bones in both arms became soft, and the upper extremities entirely useless. Thorax continues to flatten, and the organs of respiration and circulation more embarrassed. October 20, condition much the same. October 30, temperature 97½° F.; pulse 94, quite regular, but weak and soft; breathing more labored, and patient considerably cyanosed. Had a bad spell on the day before, during which he became very black (as he said) and thought he was going to die. Heart's action exaggerated, with the first sound increased while the second is scarcely audible. November 10, unable to move any member of the body except the right hand slightly, and the fingers and toes a little. Lower extremities completely everted, and contained so much fluid that they would pit considerably upon pressure. Temperature 99° F.; pulse, 112; respiration, 24; vomits regularly every day, but appetite good; sleep much disturbed by dreams. November 12, the vital powers seem to be giving away. Pulse, 120; temperature, 99.9° F.; respiration, 25. November 13, much the same. November 20, considerably improved. Pulse, 90; temperature, 97½° F.; respiration less labored and 22 per minute. During the last few days has confined his diet to raw beef steak, which he says agrees with him. He cannot digest anything else as well; even milk causes distress and vomiting. January 7, 1885. Has yet more difficulty in breathing; thinks he is choking to death. Thorax very much flattened and the ribs scarcely perceptible in many places. Complains of considerable pains in upper part of right lung, which is nearly one-third above the clavicle. Temperature not taken; pulse, 115; respiration, 28, and performed with the utmost difficulty; obstinately constipated; some eruption on the face resembling pustular acne, and one small ulcer on the tongue. All the copper-colored spots disappeared from the body several weeks

before. He coughs some and raises considerable viscid mucus. After the last named date he continued to fail gradually with all the former symptoms more or less intensified, until January 19, when he died from exhaustion, caused by pressure upon the vital organs. Post mortem next day in the presence of Drs. Sieber, Porter and Gobs, together with a friend and relative of the patient and one or two others.

POST MORTEM APPEARANCES.—His body was much flattened and diminished in size, so that its general contour resembled much that of a common frog. Yet he was six or seven inches longer than before death, on account of the straightening and stretching of the body in laying it out. He was much emaciated, and the skeleton distorted in various ways. Entire length after the stretching, 4 feet 7 inches. Left femur, 11 inches; right, 11¾; left tibia, 14 inches; right, 13¼; sternum, 6½ inches; left humerus, 11 inches; right, the same; left ulna, 9 inches; right, 10 inches; diaphragm on the right side extends up to the fourth rib. On the left, about 1½ inches lower, but we must not forget the fact that the whole chest wall was directed upwards about two inches, possibly more. Heart in the median line and moderately distended with blood. The pericardium extended up to the second rib, and contains about one ounce of fluid. The structure of the lungs were quite normal in appearance, except the upper lobe of the right, which was bound down by recent pleuritic adhesion. In position, however they were much crowded upwards, a considerable of which was found above the clavicle. The liver was somewhat smaller than normal and slightly congested. The vena cava and pulmonary veins were filled with blood. The spleen and pancreas about half the normal size, very pale, and the tissue tougher than usual. The kidneys were slightly enlarged, irregular in outline, modulated, the capule thickened, the pyramids en-

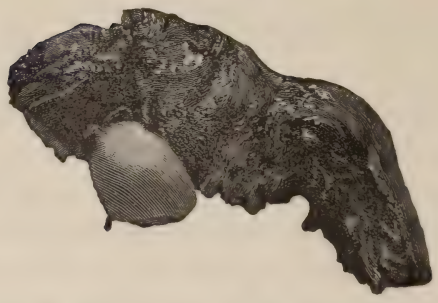
larged and the tubules partially filled with what seemed to be a calcarious deposit.

The pelvis of the kidney contained more fat than common. The bladder was moderately distended and about filled the pelvis. The peritoneum as well as the intestines and stomach presented an unusually pale and yellowish color. The bowels contained nothing but some hardened feces in the descending colon. The mesenteric glands were enlarged. The brain and spinal cord were not exposed; the head, however, was much smaller than formerly, as the hat he wore was much too large for him, the circumference of the hat on the inside being one and one-fourth inches more than that of the head. The osseous system was all in an abnormal condition; the vault of the cranium being as easily depressed as a moderately distended foot-ball, and nearly as flexible. The bones of the face, though, suffered least, which fact corresponds with most or all other reported cases, yet these were lacking in stability, as was evinced by their being tender to the touch before death, and the looseness of the teeth. The enamel of the teeth was unaffected by the disease. The clavicles were enlarged, elongated and much curved upwards and forwards, caused, no doubt, by the movements and direction given to them in the process of respiration. The thorax, as I have said, resembled that of a common frog more than that of a man. The sternum was not so much affected as most of the other bones, owing, I think, to its close proximity to the cartilages of the ribs, but it was not in its proper shape or position, the manubrium, together with the

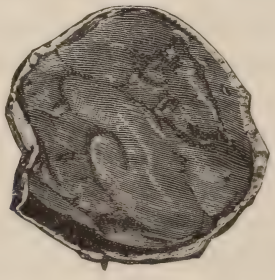
sternal ends of the clavicles extended upwards and forwards

while the gladiolus pointed upwards and slightly backwards, making a decided curve posteriorly in that bone. In the anterior third of the shaft of the ribs nearly, or quite all, the proper bone structure was wanting, and the periosteum bent or folded upon itself, the anterior part riding back over the posterior, while the whole anterior aspect of the thorax was directed backwards and upwards, causing the so-called frog-shaped chest. This condition caused so much pressure upon the organs within that the breathing was largely diaphragmatic during the time I knew the patient, and the efforts in respiration were so exaggerated that certain of the laity who saw him called him the bellows. The spinal column, while its natural curves were increased, was enlarged, with a quite sharp and extended lateral curvature to the right in the dorsal region and a slight one to the left in the lumbar region. In the pelvis the distortion was as great as that in the upper part of the body. The *ossa innominata* were nearly at right angles with the horizontal plane of the pelvis, the *ilia* being crowded inwards, while the *ischia* were directed outwards; the sacrum forwards and the pelvis slightly backwards and downwards. This position of the pelvis, together with the lower extremities, including the everted position and the curving outwards of the femora served to remind one of the old Egyptian lyre, as the outline thus formed was much the shape of the frame of one of these ancient instruments. This description of course does not apply to the body after it was straightened out.

The thigh bones were about eleven inches long, and their general outline has been sufficiently indicated. The upper extremities at the autopsy presented nothing of special importance except they were very small and so soft and flexible that they could easily have been tied in a knot. The only specimens of bone removed from the body were the upper left



of the right femur, with a part of the acetabulum, the sternum and a part of one rib. At the section of the femur only a trace of bony substance was seen adhering to the inner surface of the periosteum, but as we approached the head of the bone the cancellated structure became more characteristic, yet no where was so hard that it could not have been easily incised with an ordinary scalpel. When the periosteum was opened there run out quite an abundance of a sero-sanguineous fluid that completely enveloped, and seemed to permeate the liver-like substance that had taken the place of the medullary canal, and most all of the compact bone of the shaft. In the trochanters



there was an augmentation of the soft cancellated bony substance containing a large deposit of fat. The neck seemed to be shortened and the great trochanters extended above the articulation with the acetabulum.

In reference to treatment, I have already intimated that I did not attempt anything special in that direction. First, because

I had no faith in drugs to do him any particular good in the stage in which I had found him. Secondly, I do not believe I could have induced him, during the first two months that I knew him, to take medicine in sufficient quantities to produce any perceptible effect. Of his own will he took Horsford's acid phosphates a part of the time, and an infusion of senna occasionally, to move his bowels. I did induce him after awhile to try for a few days iodide of potas., syr. of sarsaparil., as I did pyrophosphate of iron and quin., but he concluded they did him more harm than good, so would not take them but a day or two. There is a pill, however, know as the Wagner, that I believe has been used with apparent good results, yet the only report of their use I have seen is the two cases recorded in the *London Practitioner*, in 1883. The formula is as follows: R. Phosphori gr. ⅓—ss., syr. simplicis ʒii. Mix well and add pulv. glycyrrhiza ʒiiss., pulv. gummi arab. ℈iv., pulv. gummi tragacanth ℈ii., m. fl. pil. No. 250. S. One twice a day and increase. With these a Dr. Bush claims to have cured two cases. The first, a woman thirty years of age, attacked a few weeks after childbirth; the pelvis was much distorted, she was unable to walk, and with the use of these pills, together with rest in horizontal position, she, after five months, was able to go up and down stairs without difficulty.

The second case, a woman aged fifty, was reduced almost to a skeleton and greatly deformed; thorax much affected, femora bowed and fractured. Treated in bed seven weeks, and took Wagner's pills. At the end of one and a half years bones firm and patient could walk without pains or discomfort. The deformity remained.

From my observations of this case I believe that wherever practicable a water bed, some ingenious method of effecting moderate extension together with a properly adjusted cast to

the chest might be of benefit to the sufferer. It would, I think, if applied early, have a tendency to preserve the natural shape of the thorax and counteract the contraction of the muscles upon which depend the various distortions of the skeleton and favorably modify the irritation of the sensitive tissues.

728 Lincoln Avenue.

ARTICLE III.

ON NERVOUS SYMPTOMS DUE TO OVERLOOKED ANOMALIES OF THE EYES AND EARS. *By* H. GRADLE, M. D., *of Chicago.*

[Read before the Chicago Medical Society, April 20th, 1885.]

In a paper read before the Illinois State Medical Association, at its last meeting, the author tried to point out the advantages of systematizing the search for the causes of disease,—not merely in theory, but also in the individual case. I there made a division of diseases as to their etiology, which though not new, indeed familiar to all of us, is sometimes not remembered at the right time. I distinguished between primary diseases and secondary affections. In the former instances some cause traceable to the outer world acts directly upon the parts involved in the disease, while, in the the latter class of cases, the symptoms are due to some other preëxisting primary disease, or lesion, or anomaly, somewhere in the body, perhaps at quite a distance. Of such secondary affections, I wish to present, to-night, various instances from my own observation, dependent upon anomalies of the eyes or ears. The special interest which these cases present is the fact that the local eye and ear symptoms were so insignificant that the primary trouble was either wholly overlooked—or at least not supposed to have any connection with the more annoying nervous symp-

toms in distant parts. The proof of this connection, however, was furnished in all these instances by the disappearance of the patient's complaints immediately following the proper treatment of the eye and ear difficulties. In none of these cases was any further active treatment pursued, except that coming within my special province.

The only region of the eye, the irritation of which I have ever known to cause disturbances at a distance, is the ciliary muscle. It is the condition of undue strain, to which this muscle is subjected, in hypermetropia and in astigmatism, which gives rise to so much remediable misery. The oculist sees almost daily people who have suffered for years from headaches and dizziness, and who are cured at once by a proper pair of glasses and perhaps the temporary use of atropine. But in most of these instances, the weakness of the eyes, the pain or the dimmed sight show the sufferer promptly that his eyes are at fault. It is hence not very often that we find the eye symptoms so slight as to escape the patient's attention. Still I have records of about twenty cases, observed during the last seven years, in which the patients, and generally their earlier medical attendants as well, had no definite idea that their misery was traceable to a defective state of their eyes.

The most frequent symptoms produced by eye-strain is headache. What I can say about this applies as well to the cases with manifest eye symptoms, as to those special instances in which no particular discomfort is experienced in the eyes. The headache is always frontal or temporal, though it may extend in nervous people over the entire head, even to the back of the neck. In some patients, the pain is constant; in another class, it occurs only after exertion of the eyes. But then such people usually know that the eyes are at fault. Perhaps most commonly a moderate pain exists, without intermis-

sion, but is made worse by work. The pain may be of variable severity. It is usually described as a dull ache. This headache, as well as the other symptoms to be described, has, in the experience upon which I base this paper, been permanently removed by the use of the proper spectacles. In some of the cases of astigmatism, it was necessary to keep the ciliary muscle paralyzed by the use of atropine or homatropine for a few days in order to have the glasses accepted.

It has been stated by several writers that hemicrania—the typical sick-headache—is sometimes due to refractive anomalies,—or rather to the eye-strain, which they engender. I cannot corroborate this from my own experience, tolerably large relative to refractive anomalies and at least fair in cases of migraine. I have never seen migraine cured by glasses alone. But I am ready to admit it may be one of the factors producing sick headache, and I have convinced myself that the correction of the eye-strain will facilitate the cure or at least the mitigation of migraine.

With or without headache, dizziness is a common result of eye-strain. This rarely amounts to any danger of falling or reeling, it is more commonly a dazed feeling, a difficulty of concentration upon any one subject, both of thought and of sight. Some patients have described it as a dullness scarcely distinguishable from a slight diffuse headache.

Not so common as the above complaints, have been symptoms of gastric disturbance in the patients under my notice. I have only seen four cases whose suspected stomach difficulty depended upon an overlooked anomaly of refraction, though I have had many other patients tell me that eye-strain, of which they were conscious, gave them a feeling of gastric uneasiness. The most remarkable one of these obscure stomach troubles was a man of thirty-three years, for whom I had prescribed

moderately strong concave cylinders in spectacle frame, on account of intense eye-strain headaches and dizziness. Three years later I saw the patient again, well satisfied, as far as his eyes were concerned. He had worn the glasses with perfect satisfaction, but had had a new pair made six months previously. Since that time he felt somewhat dazed, and frequently slightly nauseated, had lost his appetite and had acquired a loathing for food. The glasses I found to be correct in strength, but they were fitted in the form of eye-glasses, and hence the direction of their axes was not quite constant. The patient had wondered himself whether the eye-glasses were to blame, inasmuch as there were no other signs present of actual intestinal disease, the tongue and the state of the bowels being normal, and no vomiting or abdominal pain having ever occurred. After the patient had returned for a few days to his glasses, set in a rigid frame, all symptoms of stomach disorder disappeared promptly.

Ear-lesions may cause disturbances at a distance, almost indifferently as to the part of the auditory organ in which they are situated. I have records of about fifteen cases, in which the aural treatment surprised the patients by curing their complaints in distant parts. Although disease of the ear does not produce nervous disturbances as often as eye-strain does, still I could refer to quite a large list of other patients who had distant symptoms, but had traced them themselves to the local disorder.

It is well known that irritation of the walls of the meatus will produce cough in many persons, ex. gr., on touching with instruments. The continued occurrence of this reflex was illustrated by the case of a young man who had had a cough for some four months, coming on sometimes in distressing fits, which several physicians had failed to remove, so that he had resolved to cease all treatment. An eczema of the meatus,

which he supposed to have been there for several months, but to which he had not paid any attention, had lately spread further along the auricle, for which annoyance he called on me. After a single application of a strong solution of nitrate of silver to the well-denuded and scraped eczematous surface, his coughing fits never returned, and the slight bronchial irritation, which accompanied the trouble, disappeared during the next few days of treatment of the eczema. This cure of the cough was permanent, as I learned six weeks later. In another instance, a spasmodic cough in a child, the nocturnal attacks of which had kept the parents in a state of alarm for three weeks, was removed by taking a plug of exfoliated epithelial scales out of the auditory meatus.

In fact, this lesion—the scaling off of the epithelium of the meatus and its moulding into firm casts—I have found to be the most frequent ear disease causing distant symptoms. This peculiar disease of the epithelium is always accompanied by some interference with the permeability of the Eustachian tube, probably due to congestion, since it yields so readily to treatment, though less commonly it co-exists also with catarrh of the middle ear. The existence of these casts in the meatus does not always produce local symptoms, for the slight annoyance, to which they give rise, is overlooked by the less attentive patient, especially children. But in all my instances, the removal of the casts and the inflation of the middle ear made the ears and head feel clearer, even when the patient had considered his ears normal previously, perhaps on account of the gradual accustomance to the discomfort. The most frequent distant symptoms produced by this ear disease was headache, generally diffuse and often very persistent. In one case a young girl had been sent from the West to the East to consult some nerve-specialist, after having been treated by several

prominent physicians without success. She had nothing but persistent dull headache, which made her disinclined to work or play, and hence, though never a sharp pain, proved a serious affliction. She was brought to my office to get my opinion whether possibly the eyes might be at fault, which, however, was not the case. I then examined the nose and found it normal, but saw some slight post-nasal catarrh. This led me to question her as to her ears, which she considered perfectly well, as, indeed, her hearing was practically normal. But there were the above-described casts in both ears and some obstruction of the Eustachian tube. The removal of these casts cleared her head considerably, and the inflation of the middle ear made her feel perfectly well immediately. She then admitted that the ears did feel better than before the consultation. The pain returned slightly some hours later, but was neither as annoying nor as persistent as it had been. It disappeared gradually during the next two weeks under treatment of the post-nasal catarrh and inflation of the middle ear. In two other instances this exfoliation of the skin of the meatus and the subsequent formation of solid plugs had caused irregular attacks of headache and a dull feeling for several months, until finally a severe irregularly intermittent neuralgia of the fifth nerve on the side of the affected ear led to the detection of the ear disease. While vertigo accompanies quite often any disease of the middle ear, which increases the intralabyrinthine pressure, I have never observed dizziness without the patient being aware of his ear trouble, except in very young children. I have at least once seen a child of 3 to 4 years of age reel and stagger during several days while suffering from an acute nasal-catarrh, which had involved the Eustachian tubes, but had not perceptibly injured the hearing. The immediate improvement following inflation of the middle ear dispelled the parents' anxiety

about disease of the brain. In this connection, although perhaps foreign to the scope of this paper, I would call attention also to the frequency with which acute inflammation of the middle ear is overlooked in infants, whose intense suffering is ascribed to bowel disorder, sometimes even to pneumonia or brain-disease, until the discharge from the ear settles the diagnosis.

Spasmodic affections are occasioned not merely by irritative lesions of the ear. There are on record several instances of epilepsy and of spasm of the ocular muscles—nystagmus—produced by the presence of foreign bodies in the meatus. I have not had any such instances under my own observation, but I have seen clonic spasms of the eye-lids, that is to say, continuous twitching and winking, in a child of six years who had slipped a bead into its left ear some three weeks previously. The bead had reddened the meatus slightly, but caused no further local irritation and the child had been afraid to mention the accident. Within two days after its removal the blepharospasm ceased. One instance of spasmodic wry-neck has come under my observation as the result of irritation of the meatus and the middle ear. A child four years of age had had an acute otitis of the right side. The treatment had either been not active enough or had been discontinued too early, for the otorrhœa had not ceased. But the discharge, being very slight, formed crusts which the mother took for wax, and as the child did not complain of pain and had fair hearing, the ear was considered cured. Some four months later spasm of the right sterno-cleido-mastoid muscle began, increasing for a week and then remaining about uniform during the child's waking hours. Medical treatment of different kinds during the next three weeks had no effect. A slight increase of the otorrhœa brought the child

under my observation. I found a large polypus springing from the roof of the tympanum. After removing the same, the wry-neck became distinctly less, and disappeared entirely, together with the otorrhœa, on applying boracic acid powder during the following week.

555 N. Clark Street.

CORRESPONDENCE--DOMESTIC.

"DR. WARREN'S ADVICE."

An interesting relic has been recently found, in the form of a piece of paper containing advice to a patient, in the handwriting of Warren, who fell at Bunker Hill, and whose name is engraved on a stone to be found near the base of the historic shaft which marks the site of that famous battle. Warren, as every one knows, was a member of the medical profession, but no prescription written by him, has, so far as learned, been yet discovered.

The "advice" to a patient, referred to above, is written on a scrap of coarse paper, six by seven inches in dimensions, the handwriting being in the style commonly employed in the colonial and revolutionary periods of the history of this country, nowhere better illustrated than in the diary and other records written by the hand of General Washington. The paper is yellow with age, cracked in several places where it has been folded, and though it bears no signature, the endorsement clearly establishes the identity of the writer. The chirography has been also carefully compared with the diary and other papers left by Dr. Warren, now to be seen in the old South Church and in the Public Library of Boston. Judge Chamberlain, of that library, having made this comparison, declares the manuscript to be genuine and actually written by the hero of Bunker Hill.

It is endorsed on the reverse in the hand of the writer,

"Dr. Warren's advice," and bears in another part the words, "Mr. Pitts." It reads as follows:

"Mr. Pitts will please to take a teaspoonful of the volatile tincture of guiacum, night and morning, in hot water—and two or three teaspoonfuls of the tincture of the bark, daily at noon, in any convenient vehicle.

"He will please to use a diet moderately generous, using such exercise as he can bear without fatigue, and to keep the body open with occasional doses of tincture of hieropicra, about a tablespoonful at a time, or more if on experience it should be found that this quantity should be insufficient to procure the necessary evacuations.

"The astringent applications to the part affected should be continued for several weeks at least, or till it shall arrive at its former size."

The whole is concluded with one of those intricate flourishes which at that time served even better than either initials or the name in full to indicate the identity of the writer.

This interesting paper is in posession of one of the members of the Chicago Historical Society, whose monograph on the Dearborn family has heretofore served as the text for some editorial comments in these columns upon the physicians of the revolutionary period.

Through the kindness of Mr. Daniel Goodwin, Jr., to whom reference is made, we have been permitted to copy the original.

J. N. H.

Chicago.

EDITORIAL.

THE AMERICAN MEDICAL ASSOCIATION.

The recent annual meeting of the American Medical Association, in New Orleans, presented a remarkable contrast to the meeting held in the Crescent city sixteen years ago. The number of physicians in attendance was large,—about eight hundred,—and thoroughly representative. Texas, alone, contributed a contingent of over one hundred. The reception given to the members of the Association by the physicians of New Orleans was cordial and hospitable, in the extreme, contrasting sharply with the entertainment in 1869,—when the "desolated homes and shattered fortunes demanded too much of the time of many Southern physicians to permit their attendance, while others had not sufficiently buried war memories to clasp hands in cordial greeting with their brothers of the North, so that many of each section failed to be present." The receptions of Dr. and Mrs. T. G. Richardson, Mr. and Mrs Cartwright Eustis, the members of the New Louisiana Jockey Club, on Wednesday evening, and of the medical profession, assisted by the ladies of New Orleans, on Thursday evening, were pleasant occasions, reminding us vividly of the words of a great physician: "The parts and signs of goodness are many. If a man be gracious and courteous to strangers, it shows he is a citizen of the world, and that his heart is no island cut off from other lands, but a continent that joins to them."

Dr. Henry F. Campbell, the President, in his address, alluded to "the father of the Association," and the editor of the *Journal of the American Medical Association*, in the following words:

"Too full of the meekness of wisdom to be elated by praise.

too worthy of praise to be defiled by flattery, and among all the living, standing foremost in the duration and constancy of his devotion, I could ask you to allow me, by virtue of the authority in which I am clothed, to bid him stand, as sovereigns bid their heroes kneel, and dub him with the ensign and the title, '*Noblest Roman of us all.*'"

Dr. Campbell's recommendation that a committee be appointed to consider the expediency of organizing, or of rehabilitating a section of forensic medicine, was favorably received, and a committee was selected.

The Journal of the American Medical Association will continue to be published in Chicago, under the editorship of Dr. N. S. Davis.

The work of the Sections, all things considered, was highly creditable.

The numerous papers, read before the Section on Obstetrics and Diseases of Women, were the result of the activity of the officers of the Section, Dr. R. S. Sutton, of Pennsylvania, and Dr. J. T. Jelks, of Arkansas.

The Medical News, one year ago, urged the importance of allowing each Section to select its own presiding officers, instead of relegating the work to the General Nominating Committee.

On Thursday, Dr. W. W. Potter, of Buffalo, N. Y., called up the amendment to the by-laws, offered last year by Dr. Foster Pratt, of Michigan, authorizing this change. After considerable discussion, the amendment was laid over for consideration next year. The utterly inadequate representation of the profession in certain Sections at the last meeting contains a pointed moral

We earnestly hope that all who are sincerely concerned for the welfare of the Association will urge the adoption of Dr. Foster Pratt's amendment, at the next meeting, in St. Louis.

OBJECTIVE DIAGNOSIS.

At the last annual meeting of the *American Medical Association*, in the section on *Obstetrics and Diseases of Women*, Dr. S. C. Gordon, of Portland, Maine, read an interesting and valuable paper, entitled "*Reasons for and Results of Some Cases of Tait's Operation.*"

Dr. Gordon's paper was suggested by an incident which occurred at the last *International Medical Congress*, at Copenhagen. Sir Spencer Wells, Bart., in criticism of the communication by Koeberlé, of Strasbourg, said: "As regards castration of women for nervous disease, we might just as well go about the country cutting men for similar disease as to do what is being done in removing ovaries of women. I believe that in no case should the ovaries of a woman be removed, unless we can demonstrate beyond all doubt that there is actual disease." In reply to Dr. Gordon's question: "Do you mean by demonstration only that which can be made by touch?" Sir Spencer Wells said: "Yes, most emphatically!"

Dr. Gordon, in the paper to which allusion has just been made, after referring Sir Spencer Wells' adverse criticism of Tait's operation to his well-known personal aversion to that distinguished surgeon, cited seven cases in which he had performed Tait's operation, with benefit to his patients, in the absence of tangible evidence of ovarian or tubal disease. He thought that a critical analysis of subjective symptoms, through a sufficiently long period of time, in the utter absence of positive evidence elicited by touch, could establish a diagnosis of a pathological condition of the uterine *adnexa* with such a degree of probability as to indicate operative procedure.

The subjective symptoms, to which special importance was attached, are pre-menstrual pain, irregularity of menstrual function, circulatory disturbances, and a peculiar mahogany-

bronze color of the skin of the face. This peculiar *cutis ænea* resembles closely the bronze discoloration observed in Addison's disease.

Dr. Gordon's paper excited much discussion. Dr. William H. Wathen, of Louisville, Ky., thought the doctrine of operation, without distinct objective evidence, was erroneous, absolutely, and pernicious in its tendencies. We cannot but think Dr. Wathen's stricture well founded. All the rational signs and extraneous symptoms deserve to be carefully inquired into and noted, but the testimony derivable from them cannot, in the present state of our knowledge, amount to more than a high degree of *probable* evidence. It is only in very exceptional cases that such a degree of probability is established as would justify such a radical procedure as Tait's operation.

Moreover, the *tactus eruditus* is capable of wonderful development. The methods at our disposal for the local examination of the female genital tract are numerous, and in the majority of cases adequate.

By means of inspection of the vulva and abdomen, auscultation and percussion of the abdomen, palpation of the abdomen, digital examination, vaginal, rectal, vesical, conjoined examination, vagino-abdominal, recto-abdominal, vesico-abdominal, digital eversion of the rectum, every portion of so small a space as the pelvic cavity can usually be thoroughly explored, and that, too, without serious injury to the patient. As important adjuvants, we have posture and anæsthetics.

It is well to remember, in this connection, the teachings of Oppolzer and Hebra. Oppolzer's famous diagnosis of strangulated hernia by palpation, after the rejection of the case at the Surgical Clinics of the Vienna General Hospital, is familiar to all students of the history of medicine. The elder Hebra was accustomed to say: "Gentlemen, recollect your pathological anatomy and make an objective diagnosis."

SOCIETY PROCEEDINGS.

TRANSACTIONS OF THE CHICAGO GYNECOLOGICAL SOCIETY.—*Friday Evening, March 20, 1885. Regular Meeting.* I.—THE INFLUENCE OF CIMICIFUGA RACEMOSA UPON PARTURITION, *by* J. SUYDAM KNOX, M. D. II.—SOME REMARKS ON THE VALUE OF PERMANGANATE OF POTASH IN AMENORRHŒA—*Inaugural Thesis, by* EDMUND J. DOERING, M. D. III.—REPORT OF A CASE OF HYSTERECTOMY FOR INTRA-MURAL MYOMA, *by Professor* E. C. DUDLEY, M. D.

The President, DR. P. H. MERRIMAN, in the chair.

I. Professor J. Suydam Knox read a paper entitled, "The Influence of Cimicifuga Racemosa upon Parturition."

After a *résumé* of the medical history of the drug, Professor Knox gave the results of his clinical observations in one hundred and fifty cases of labor,—fifty-seven primiparæ, ninety-three multiparæ,—in which black cohosh had been exhibited. The average duration of the first and second stages of labor, in normal cases, in primiparæ, was seventeen and three hours, respectively. Under the influence of black cohosh, the duration of the first and second stages of labor, in the fifty-seven cases observed, was six and one-quarter, and one and three-quarter hours, respectively. The average duration of the first and second stages, in normal cases, in multiparæ, was twelve and one hours, respectively. Under the influence of black cohosh, in the ninety-three cases observed, the average dura-

tion of the first and second stages was three hours, and twenty-seven minutes, respectively.

From these clinical observations Dr. Knox drew the following conclusions:

"1. Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability. Nausea, pruritus and insomnia, so common in the last six week of pregnancy, are always rendered less distressing, and often disappear under its administration.

"2. Cimicifuga has a positive anti-spasmodic effect upon the parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact, during the first indiscriminate use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

"3. Cimicifuga relaxes uterine muscular fibre, and the soft parts of the parturient canal, by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

"4. Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

"5. It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery.

"It is my habit, however, to administer fifteen to thirty minims of the fluid extract of ergot after the birth of the fœtal head, and I have had but few opportunities of testing this effect of the cohosh.

"My method of administration has been to give fifteen minims fluid extract of cimicifuga in compound syrup of sarsaparilla each night for four weeks before the expected confinement.

"One fluid ounce of the fluid extract of cimicifuga to three fluid ounces of compound sarsaparilla,—dose, one teaspoonful,—makes just the required quantity."

Discussion.—Dr. Philip Adolphus had employed the cohosh in the manner indicated by Professor Knox, in one case, with negative results.

Dr. Edward Warren Sawyer thought the results obtained by Professor Knox were astonishing. He thought there could be no doubt that the drug had the physiological action to which allusion has been made. He would, at once, act upon the suggestion in his private practice.

Professor W. W. Jaggard thought that if the influence upon parturition, so clearly sketched by Professor Knox, was capable of demonstration, he could agree with Dr. Sawyer's panegyric. Professor Knox's carefully prepared paper was worthy of study and investigation. Dr. H. Webster Jones, formerly a prominent obstetrician in Chicago, had advanced similar views, with reference to the physiological action of black cohosh, in a paper published in the *Transactions of the Illinois State Medical Society*, a few years since. Dr. Jones's advocacy of the drug as an oxytocic was well known to every practitioner in the city.

Professor Jaggard desired to call the attention of the Fellows to the following subjects in Professor Knox's paper:

I. Professor Knox had stated that the average duration of the first stage of labor in primiparæ and multiparæ was, respectively, seventeen and twelve hours; under the influence of black cohosh, the duration of this stage was abbreviated to six and one-quarter, and three hours, respectively. It was a matter of extreme difficulty to define the limits of the duration of the first stage of labor with such mathematical accuracy. The "personal equation" assumes great importance as a possible source of error. The subjective signs and the results of physical exploration are not always sufficient to justify the diagnosis of the commencement of labor. Thus, Dr. R. Lumpe

(Archiv. für Gynaekologie, 1883, Bd. XXI. Hft. I, p. 29) concludes, from the observation of several hundred primiparæ, that the cervical canal begins to dilate from eight to fourteen days before the expulsion of the child. Other observers assign a period of much briefer duration than the typical seventeen hours of Spiegelberg, to which Dr. Knox alluded.

Apart from the difficulty in the determination of the commencement of the first stage, the duration is capable of infinite individual variation.

II. One hundred and fifty cases were insufficient to warrant such positive deductions upon an intricate therapeutical problem. In every one of the cases cited by Dr. Knox, it was clearly indeterminate whether or no the effect was *post hoc* or *propter hoc*.

Black cohosh had been employed, on an extensive scale, in large lying-in hospitals in Germany. Every condition for accurate clinical observation had been supplied. Such conditions were: competent observers, numerous cases, under absolute control for a sufficient period of time, chemical purity of the drug, and an approximately perfect system of keeping records. Up to the present time, results had been of a purely negative character. It was true that Schatz had reported favorably as to the action of the drug in the treatment of certain pathological conditions of uterus.

Dr. Jaggard did not wish to be understood as dogmatically condemning the drug. The evidence in favor of its action as an oxytocic, as collected from experiments upon the lower animals, or from clinical observation, was entirely insufficient to warrant the positive conclusions of the author of the paper. The subject was worthy of further investigation.

III. He thought the practice of the exhibition of ergot, before the completion of the second stage of labor, was repre-

hensible. It was in conflict with the obstetrical principles of the day, as deduced from clinical experience, and the nature of the case. This remark was applicable exclusively to physiological labors.

Professor Charles Warrington Earle had used black cohosh, at the suggestion of Dr. Jones and Professor Knox, in a variety of cases, with negative results. He had about the same number of precipitate labors as occurred in his practice prior to the introduction of the drug. It was possible that he had not employed doses of sufficient size, nor for a sufficient length of time before labor.

Dr. Henry T. Byford wished to enter a protest against all methods of rendering the process of labor shorter. Quick labors were wrong labors, as a rule.

Dr. George M. Chamberlain had no experience with black cohosh, but he was opposed to the exhibition of ergot before the expulsion of the child in physiological cases.

Professor Knox closed the discussion.

In reply to Professor Jaggard, he said that the results of his clinical experience with black cohosh were of such a convincing character, that he would continue the exhibition of the drug in the future. In regard to the exhibition of ergot, before the expulsion of the child, he did it to save time. The drug was not absorbed until twenty minutes after exhibition, and long before the expiration of that time the child was born. He could not spare the twenty minutes, required to secure retraction of the uterus, after delivery of child and placenta. In reply to Dr. H. T. Byford, he said that, at the present day, there were no physiological labors. Women were not Eves. By the judicious use of a drug, like black cohosh, labor was made to resemble the ideal, physiological process, as still observed among savages.

II. The Secretary then read the inaugural thesis of Dr. Edmund J. Doering M. D., (Chicago Medical College, 1874), entitled, "Some Remarks on the Value of Permanganate of Potash in Amenorrhœa."

After a brief description of the physical and chemical character of the drug, Dr. Doering discussed its physiological action. Bartholow, who has great faith in the drug, claims that although it parts with its oxygen with great readiness, the readiness is *not* sufficiently great to prevent the distribution of the gas into the blood. "His opponents deny this, and argue that the organic matter contained in the stomach and mucous membranes is sufficient to appropriate the oxygen of the salt and thus prevent its entrance into the circulation."

Professor N. Gray Bartlett, a Chicago chemist, gives the following opinion:

"From the readiness with which the permanganate of potassium is decomposed by organic compounds, it would seem to be ineligible for universal use. When so administered, it is immediately brought into contact, in the stomach, with a relatively large amount of organic matter and necessarily is very rapidly destroyed, the manganese of the permanganate separating, in all probability, in the form of the hydrated manganese dioxide. The latter compound is an active oxidising agent, and is possibly capable of exercising in the economy the oxidising function, which has been ascribed to the permanganate of potassium. It would seem rational, therefore, anticipating the change which follows the administration of the permanganate, to substitute the hydrated dioxide of manganese, which can readily be prepared in a state of purity for medical use."

Whatever view may be adopted as to the chemical change which the permanganate undergoes in the human economy, the main question is as to its therapeutic value.

Professor T. Gaillard Thomas, M. D., in his address to the New York State Medical Association, expresses faith in the value of the drug as an emmenagogue. Dr. Ringer and Dr. Murrell recommend the remedy. Dr. Doering had given the drug a careful trial in thirty cases of amenorrhœa, depending upon anæmia and general atony of the sexual apparatus. In about half the cases the observations were unsatisfactory, from various causes, *i. e.*, inattention to the general directions, want of perseverance in taking the medicine, so that the conclusions arrived at were based upon fourteen cases, in each of which the cause of the amenorrhœa was entirely clear, the remedy carefully and continuously given, and the effect clearly observed.

The cases were tabulated.

Conclusions.—I. Permanganate of potash in doses of from two to four grains is an efficient emmenagogue, if administered for a period of not less than two weeks.

II. Its administration in doses large enough to be effective is accompanied by severe pain, which frequently necessitates discontinuance of the remedy, and hence impairs its value as an emmenagogue.

III. The most efficient method of administering the drug is in capsules, taken midway between meals, and followed by draughts of some pure mineral water, like silurian.

Dr. Doering was elected Fellow of the Society.

Professor E. C. Dudley gave a very brief report of a case of hysterectomy for intra-mural myoma; the uterus, ovaries and tubes of which were exhibited at the February meeting of the Society.

The patient died of general peritonitis on the sixth day after operation.

The next meeting of the Society will be held on Friday evening, April 17th, 1885, at the Palmer House.

Programme.—Remarks upon chronic peri-uterine abscess, by Professor Christian Fenger, M. D., with the exhibition of specimens.

II. Remarks upon a Teratom, by W. W. Jaggard, M. D., with presentation of specimen.

III. A paper by Henry T. Byford, M. D.; subject to be announced.

W. W. JAGGARD, M. D., *Editor.*

2330 Indiana Avenue.

March 21st, 1885.

BOOK REVIEWS.

TRANSACTIONS OF THE THIRTY-FOURTH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY, HELD AT CHICAGO, MAY 20, 21 and 22, 1884.

The Transactions of the Thirty-fourth Annual Meeting of the Illinois State Medical Society is an interesting and valuable volume. The papers are numerous, important, and exhibit more than the usual amount of original investigation. Professor H. A. Johnson's Case of "Bilateral Paralysis of the Abductor of the Vocal Chords" will attract general attention, as a clear, distinct exposition of a relatively rare pathological condition. The case was seen in London by Morrell Mackenzie and Lennox Brown, who concurred in Professor Johnson's diagnosis and treatment.

Professor Christian Fenger contributes two important papers, "Excision of Hip and Knee Joints, with Exhibition of Patients," and "On Surgical Treatment of Gangrene of the Lung."

Professor Fenger's views, on these subjects, are so well known to the profession that it is not necessary to allude to them in detail. Unfortunately, there was no discussion of the subject matter of Professor Fenger's paper,—a fact to which Dr. E. P. Cook, of Mendota, alluded in well chosen terms at the time. A paper on "Vaccination," presenting facts known for an indefinite period of time, on the other hand, was sufficient to provoke a very lively debate.

Professor D. W. Graham's paper, entitled, "A Case of Goitre

with Obstruction," is a valuable contribution to the literature of the subject.

Professor Charles Warrington Earle's paper, entitled "Four Cases of Pancreatic Anæmia," was one of the most interesting contributions to the department of internal medicine.

The members of the Committee on Publication deserve much credit for the selection of papers for publication, and for the many technical excellencies of the volume. W. W. J.

THE STORY OF MY LIFE. *By* J. MARION SIMS, M. D., LL.D. *Edited by his Son*, H. MARION-SIMS, M. D. *New York:* D. APPLETON & CO. 1884. *12mo., pp. 471.*

As an autobiography, "The Story of My Life" is a unique book. It reads like a romance. With characteristic simplicity and guilelessness, the great clinical surgeon has given to the profession, and the world at large, a graphic portraiture of the evolution of a South Carolina lad into one of the greatest modern benefactors of his race.

"Mine," says he, "has been a real romance, full of incident, anxiety, hope and care; some disappointments, and many successes, with much sickness and sorrow; but it has also been full of joy, contentment, and real happiness."

A priceless heritage, "The Story of My Life" deserves a place on the same shelf with "Plutarch's Lives." As a vivid picture of contemporaneous medical history, American and European, the value of the book is great. With a keen analytical eye, Sims has drawn pen-sketches, with critical accuracy, of the modern heroes of medicine. Simpson, Nélaton, Trousseau, Civiale, Ricord, Chassaignac, Larrey, Huguier, Velpeau, Baker Brown, Malgaigne, Thompson, Erichsen and others

have assumed living forms under the influence of his magic pen.

Finally, he has magnanimously shielded from public scrutiny the anomalous conduct of his New York *confrères*, in connection with the establishment and perpetuation of the Woman's Hospital.

The reviewer's task is light. Every member of the medical profession will appreciate the book, and many will possess it.

Already it has been translated into foreign languages, and the first German edition is nearly exhausted.

The book is marred by an injudicious introduction of twenty-eight pages, from the pen of an intimate friend. The statement is made in this introduction that Sims, in 1863, was authoritatively recognized as "the foremost clinical surgeon of the age." As a contemporary of v. Langenbeck, Billroth, Péan, Lister, Volkmann, König, Esmarch, Wells, Keith, Paget, Erichsen, Thompson, Gross, Bigelow, the elder Pancoast, Nélaton, the statement appears remarkable.

The harsh sectional allusion to General W. Tecumseh Sherman,—"That commander bore among his baptismal titles, as if in forecast of his military career, the name of a sanguinary Indian savage,"—is irrelevant, in bad taste, and opposed to Sims' own views upon the subject.

In connection with Sims' speculum, Dr. Emmet's very remarkable and extravagant statement is quoted:

"From the beginning of time to the present, I believe that the human race has not been benefited to the same extent, and within a like period, by the introduction of any other surgical instrument."

W. W. J.

HAND BOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. *By* ARTHUR VAN HARLINGEN, M. D. *Professor of Diseases of the Skin in the Philadelphia Polyclinic and College of Graduates in Medicine, etc., etc. With two colored plates. Philadelphia:* BLAKISTON, SON & CO. 8 vo., *pp. 282.*

The author of this little manual has become well known to the profession by his previous valuable contributions to Dermatological literature. Among the most important of these may be named a full description of the medicinal eruptions, which appeared in the *Archives of Dermatology*, in Oct. 1881; a concise chapter on diseases of the skin, in the American edition of Holmes' System of Surgery; together with papers on scleroderma, the pathology of serborrhœa, etc., which have from time to time appeared over his signature in print. By education and experience, the author is well fitted for his task.

In the limits of a small volume like the present, one can look for but little beside a compendious statement of what is known and accepted on the subjects considered. Indeed, the demand is for scrupulous omission of all points open to serious discussion. As a result, the pages before us are well adapted to the needs of those for whom the work was probably intended, viz: busy practitioners and students who either can not or will not consult the larger treatises. For the sake of convenience, the names of all diseases of the skin are here arranged in alphabetical order, with references by which each can be readily assigned to its place in the nine chief divisions recognized in the Hebra classification and adopted by the American Dermatological Association. It is proper to note in passing, however, that at its late meeting the American Dermatological Association reduced the number of these classes to eight, by the omission of that which originally included

"ulcers." When it is considered that an ulcer always is the result of a precedent pathological process, the reason for such a modification in the interests of a simple and scientific classification becomes apparent.

Dr. Van Harlingen's hand-book is decidedly in advance of all its competitors among the smaller manuals, in point of practical suggestiveness. It is well named a hand-book of "Diagnosis and Treatment." Eczema in its protean characters furnishes always the best test of an author's ability to successfully meet the exigencies of practice; and upon this subject the therapeutical hints given in the book before us, are eminently valuable. About one-seventh of the volume is devoted exclusively to the treatment of the several varieties of eczema, and it would be difficult to find in any work a safer and more trustworthy exposition of the several intricate problems presented in therapeutic management of that disease.

The two colored plates can scarcely be said to add much to the value of the manual. In other respects, the typographical appearance of the pages is all that could be desired.

J. N. H.

A TEXT BOOK OF HYGIENE: A COMPREHENSIVE TREATISE ON THE PRINCIPLES AND PRACTICE OF PREVENTIVE MEDICINE, FROM AN AMERICAN STANDPOINT. *By* GEORGE H. ROHE, M. D., *Professor of Hygiene, College of Physicians and Surgeons, Baltimore, etc. 8vo., cloth, pp. xv., 324. Baltimore:* THOMAS & EVANS. 1885.

This little handbook, printed in large type, will probably find its way into the hands of a multitude of readers, among the laity as well as the profession. It treats of the following: Air, Water, Food, Soil, Sewage, Habitations, Hospitals, Schools, Occupation, Military and Marine Hygiene, Prison

Exercise, Bathing, Clothing, Disposal of the Dead, Contagious and Epidemic Diseases, Antiseptics and Disinfectants, Quarantine and Vital Statistics. Although each of these subjects is treated of in a concise manner, the bibliography at the end of each chapter will render more extensive study very easy. The clear, intelligent style of the author will be especially appreciated by popular readers, and it is to be hoped that this will be followed by many and more extensive editions. The weak points and deficiencies of the book partake of the hygienic ignorance of the times, made more manifest by the rapid advance of architecture, commerce, and the requirements of political economy, and will disappear as experimental hygiene is more thoroughly tested. H. D. V.

NEWS ITEMS.

The Illinois State Medical Society, at its annual session, recommended to the Legislature of this State the enactment of the following bill, prepared by the committee appointed by the society for that purpose:

A Bill for an Act to provide for the Commitment of the Insane.—Be it enacted. First, That the judges of the courts of each judicial district shall, jointly, nominate to the Governor, within sixty days next after the passage of this Act, two physicians in each county best qualified to act as Commissioners of Insanity.

Second, That the Governor, within thirty days next after the reception of such nomination, shall appoint the said two physicians to be Commissioners of Insanity in and for each of said counties respectively.

Third, That the said two Commissioners so appointed, together with the Judge of the County Court, in and for each of said counties, respectively, constitute the Board of Commissioners of Insanity for said county.

Fourth, That the said Board of Commissioners have exclusive and complete jurisdiction of all matters pertaining to the commitment and custody of the insane, and power and authority adequate to the determination thereof.

Fifth, That affidavit of alleged insanity be made to the Clerk of the County—*ex-officio* Clerk to the Board of Commissioners of Insanity—to be reported by him to the Judge of the County Court—*ex-officio* President of the said Board—within twenty-four hours of the date of the said affidavit.

Sixth, That the alleged insane person be examined by each and all of the said Commissioners, privately, publicly, separ-

ately or jointly, as may be deemed, by each, necessary to the determination of the truth.

Seventh, That insanity be determined only by unanimous decision of the said Board.

Eighth, That, in case of disagreement, the minority may demand, and the Board must grant, a re-examination.

Ninth, That the said Board, having determined the insanity of any one, shall order his (or her) commitment, if curable, to a State hospital for the insane, if incurable, to a county asylum, or to such other custody as may seem best adapted to the circumstances of any special case.

Tenth, That each of said Commissioners, so appointed, receive the sum of —— dollars for each and every case of alleged insanity examined by him, and in addition thereto the sum of —— —— for each and every mile necessarily traveled by him to and from the places of holding said examination, the same to be paid as fees to jurors hitherto.

Eleventh, That the term of service of one of said Commissioners, so appointed, be three years, to be determined by lot; that of all others to be five years—in order that a majority of said Board may always consist of old members.

Provided, That nothing in this Act shall be construed to prevent the trial by jury, as at present, of any alleged insane person who may, either personally or by his or her friends, elect that mode of examination; and that for all such cases the statutes now in force shall continue effective.

The law now in force in this State, in its practical working, does violence to the feelings of many persons, charged with being insane, by being brought into open court and tried by jury. No doubt the shock thus sustained is prejudicial to their welfare, and some more humane method of proceeding should be adopted. The bill proposed, if enacted by the present Legislature, as it is hoped it will be, will do much to relieve such unfortunates from the evils attendant upon jury trial, and yet leaves the right of trial by jury in cases where for any reasons it may be demanded.

ABSTRACTS AND EXTRACTS.

OBSTETRICS AND GYNÆCOLOGY.

Labor and Child-Bed in Elderly Primiparæ.—Dr. F. Steinman, of St. Petersburg, contributes to the *Archiv für Gynakologie* (Band xxii., Heft 3) an article on the above subject. His method of investigating it is not the same as that of Dr. Kleinwächter (of whose researches we recently placed an abstract before our readers). Dr. Kleinwächter compared the facts at his disposal relating to elderly primiparæ with those relating to younger subjects in the same clinic, and therefore under circumstances as nearly as possible identical. Dr. Steinman compares the histories of elderly primiparæ at St. Petersburg with averages assumed to be true of labor in general. This method seems to us more open to objection than that of Kleinwächter; for exceptional features shown to be present in the St. Petersburg elderly primiparæ might be partly, at least, due to peculiarities in the patients, or in the working of that particular institution. Kleinwächter, by comparing patients of the same place and under the same conditions, differing only in age, seems to us to have worked on a method more likely to give correct results. With this explanation we put Steinman's conclusions before our readers. It will be seen that in some important respects they agree with Kleinwächter. (1) The only results that are comparable are those of authors who have collected their material in lying-in hospitals ; figures

based on private practice, out-door maternities, and published cases show exceptionally unfavorable results in elderly primiparæ; an exceptionally high percentage of mal-presentations and narrow pelves, and a correspondingly great frequency of operations, of morbility, and mortality, maternal and infantile. (2) The proportion of elderly primiparæ is greater at St. Petersburg than at Marburg or Munich. (This, we think, illustrates our criticism.) (3) Twins are slightly more frequent than in other cases. (4) Transverse and pelvic presentation are somewhat more frequent than common. Face presentations are rather less common, this being the contrary to what other statistics show. (5) Narrow pelves are more common than in other cases. (6) operations are more frequent, especially the forceps, than in other cases, even with normal pelves; from which it would appear that weak uterine action is common. (7) Spasmodic contraction of the uterus and eclampsia are observed considerably more often than in other cases. (8) With increasing age of the primiparæ, rupture of the perineum is more frequent, and more seldom heals. (9) The morbility is increased correspondingly to the increased frequency of complications shown in the foregoing; and elderly primiparæ are more liable to accidental intercurrent disease during childbed than others. (10) Consequently both the general and the purely puerperal mortality in them is increased. (11) Albuminuria and kidney diseases are seen more often in elderly primiparæ than in others, both in pregnancy and in lying-in. (12) The mortality of children of elderly primiparæ is nearly three times as great as that of others in the St. Petersburg clinic; this increase being mainly due to the large number of children dying during delivery.

Remote Puerperal Hemorrhage.—At a recent meeting of the New York Obstetrical Society (*New York Medical Journal*),

Dr. Gaillard Thomas referred to some examples he had recently met with of the condition which the late Dr. McClintock termed "remote or delayed puerperal hemorrhage," in which the bleeding comes on three weeks or a month after labor, when the practitioner has ceased making his visits. The uterus may have contracted after labor, and everything have gone on properly until the ninth day or so, when the physician ceases his daily visits, but from that time the woman begins to lose blood steadily. If she makes a little additional effort, or if anything occurs to cause considerable mental excitement, an exceedingly dangerous hemorrhage may take place, which will require to be checked by the tampon. If sudden and profuse hemorrhage does not occur, requiring the services of a physician immediately, a steady loss of blood in moderate amount may continue for a week or ten days, until the woman becomes very much exhausted. Dr. Thomas has met with many of these cases, and he detailed the particulars of one which were of considerable interest. The lady who formed the subject of the case had ten months before come under his notice for aggravated vaginismus, which quite precluded connection; but after an operation had been performed she immediately conceived. About the end of the seventh month the veins leading from each labium became greatly enlarged, the parts presenting the appearance of a mass of earth-worms of the size of a fist—a condition which Dr. Thomas has seen in so marked a degree only once or twice before. On the ninth day after delivery at the full time hemorrhage came on, and the various remedies, except the tampon, were tried in vain to arrest it; and about three weeks after delivery she was seized with violent and very profuse hemorrhage after she had got out of bed, which reduced her very much. Each time that this occurred it was preceded by the passage of a large

blood-clot. Dr. Thomas was now sent for and came prepared for the removal of the remains of membranes, the retention of which he felt sure was the cause of the hemorrhage. Her attendant, however, felt very positive that none of the membranes had been left, as he had examined the placenta very carefully and found no interruption of its continuity existing. Dr. Thomas, feeling equally positive that some of the placenta was still in the uterus, the patient was placed on a table for examination and ether attempted to be employed. At this she sprang up in a state of wild excitement, refusing the inhalation from the recollection of having suffered so much from it during the operation for vaginismus. All persuasion was futile, and Dr. Thomas refused to resort to compulsion, as suggested by her friends, having seen under such circumstances violent mania developed. "I think," Dr. Thomas says, "we cannot be too careful as to doing that which is strongly opposed to the will of a puerperal woman. I would rather run the risk of a violent hemorrhage in this case than have forced the patient to take ether. She was spoken to kindly and put back into bed." Next day she submitted to be etherized, and the canal having been dilated, the curette was passed in and three pieces of placenta, each as large as the last phalanx of an index finger, were removed, very little hemorrhage ensuing. "With regard to the statement so often made, that the placenta has been carefully examined and found entire, it usually amounts to nothing. In the first place, we know that the physician commonly looks at the after-birth hastily, and in a careless manner. Besides, I believe that little pieces may be broken off, and remain behind, which no man could recognize from an examination of the placenta, though he examined it with the utmost care. As in this case, so in all others of delayed puerperal hemorrhage that I have met with, it has been

due to retained placenta or membranes. Dr. McClintock mentioned a case in his practice, which, I believe, proved fatal. I have met with some which very nearly proved fatal, and doubtless some of those present have encountered similar cases."

Laparo-Myotomy.—A recent number of the *Zeitschrift für Geburtshülfe und Gynäkologie* (Band x., Heft 1) contains an interesting article on the above subject by Dr. R. Kaltenbach, of Giessen. He relates seven cases of the operation in question, and then discusses the general subject. Among his cases, the one that seems to us of most special interest was that of a patient who was able to tell in which ovary ovulation was going on by the presence of burning pain, which began eight days before each menstrual flow, and was felt in the situation of the ovary that was active. The operation was performed three days before the expected advent of the flow. Before it was done the patient indicated the left ovary as the one which was ovulating, and there was tenderness on pressure over its situation. At the operation a freshly-ruptured Graafian follicle was found in this ovary. Dr. Kaltenbach has published in a former paper three other cases; these, with those now published, make ten, of which nine have been successful. Two of them were cases in which a pedunculated fibroid was removed; the remainder cases of supra-vaginal hysterectomy. The fatal case was one of the latter. The pedicle in the former cases was treated by the intra-peritoneal, in the latter by the extra-peritoneal method. The author discusses the different methods of dealing with the stump. Although the extra-peritoneal method has hitherto been attended with the better results, yet Dr. Kaltenbach does not regard its superiority as certain to be permanent. He expects improved results from the mode of intra-peritoneal treatment, which consists in the suture of the perito-

neum over the stump, with the ligature of the uterine and ovarian arteries on each side. If the extra-peritoneal operation is done, Dr. Kaltenbach prefers the treatment of the stump after the method of Hager, viz., by chloride of zinc; 100 per cent. solution of which is applied to the surface of the stump, 5 to 10 per cent. solution to the lateral parts of it, and chloride of zinc wool of 2 to 5 per cent. strength packed around the stump.

The Anatomy and Pathology of the Labia Minora.—Dr. Henri Carrard, of Bern, contributes to the *Zeitschrift für Geburtshülfe und Gynäkologie* (Band x., Heft 1) a paper on the above subject. He had occasion to examine the labia minora removed on account of hypertrophy; and in order to be able to judge how far these were morbid, he examined a series of healthy labia. He remarks on the scanty information on the subject to be found in literature. Hildebrandt refers *pruritus vulvæ* to a dilatation of the vessels of the nymphæ, basing this view on one case in which these parts looked redder than normal. In Dr. Carrard's case there was pruritus, but he found no evidence of enlargement of the vessels. There is divergence of opinion as to the covering of the labia minora; some say it is skin, others mucous membrane. Dr. Carrard says that although moist, and resembling mucous membrane, it has the histological characters of skin—that it presents papilæ, sebaceous glands and epidermis, while mucous glands are quite absent. There is a similar divergence as to the mode of termination of the nerves which supply the lesser labia. Dr. Carrard finds in their papillæ regularly well-developed Meissner tactile corpuscles, bodies which have hitherto been found only in the palms of the hands and soles of the feet, the nipple, free borders of the eyelid, the mucous surface of the lips, the front of the forearm, and the clitoris. He did not discover

spheroidal end bulbs, nor the so-called "genital corpuscles." In the cases with hypertrophy with pruritus he found increase in the connective tissue and in the nerve structures. The nerve structures consisted of Meissner's corpuscles, spheroidal and bulbs (as in the conjunctivæ), and other peculiar bodies which he believes have not been described, although they are very much like the "genital corpuscles" of Krause, and which are something between the two modes of nerve termination just mentioned. Lastly, he has found in the hypertrophied labium adenoid tissue disposed under the surface, mostly around the orifices of the sebaceous glands. He confesses himself entirely in the dark as to the significance of this. The paper is well illustrated.

The Removal of Clots in Uterine Hæmorrhage.—All who heard the late Professor Meigs lecture upon *post-mortem* hæmorrhage, were struck by the earnest force with which he exclaimed, "Turn out the clot!" That this rule is not absolute was shown by a case recently cited in a paper read by Dr. Hibbert before the Indiana Medical Society. The patient, fifteen minutes after the birth of her second child, had hæmorrhage. The placenta was largely adherent, and was detached with difficulty, the uterus firmly contracting under the influence of external manipulation and the administration of a full dose of ergot, with a medium dose of morphia and a little alcohol. In a little time the patient fainted, but soon rallied without any attempt at restoring her. The fainting recurred, and spontaneous revival again took place, followed by perfect restoration and rapid convalescence. Dr. Hibbert observes that in this case he purposely availed himself of the remedial agency of syncope, under the belief that the manipulation necessary for the removal of the placenta had caused an

oozing from the abraded surface, or had broken a vessel which the uterine contraction had not closed. His hope was that the syncope would favor the formation of a clot that the reëstablishment of the circulation would not remove. He believes that if he had removed this clot, and endeavored to secure a better contraction of the uterus by internal manipulation, by ice or styptics, the patient would have died.—*Philadelphia Medical News*.

Cramp of the Levator Ani—Dr. K. Henrichsen, of Odessa, contributes to the *Archiv für Gynäkologie* (Band xxiii., Heft. 1) a short paper on the above subject. Spasmodic contraction of the levator ani muscle has been mentioned by Scanzoni, and Hildebrandt described a case in which the penis during coitus was so grasped by the contraction of the levator ani, that it could not be withdrawn from the vagina while the cramp of the muscle lasted. Contraction of the levator ani constricting the vagina has been described by Marion Sims, Beigel, and we believe Budin. Dr. Henrichsen now describes a case in which digital examination per vaginam excited such spasmodic contraction that the neck of the uterus could not be reached with the finger, owing to the contraction of the vagina. The same spasmodic contraction could be perceived on examination per rectum. The muscle constricting the vagina is presumed to be the levator ani. On reëxamination the following day, none of this contraction was present, and the cervix uteri could be explored with ease. The cramp, while it lasted, was painful to the patient. Dr. Henrichsen, from his experience of this case, is prepared to accept Hildebrant's account of the "penis captivus." As to this, we would ask a question which may be thought coarse, but which we think very pertinent: Given an active man, with his penis well greased, would it be possible for an enemy to hold him captive by grasping

that organ? We think not, and therefore cannot help feeling doubtful as to occurrence of incarceration of the penis in any literal sense of the word. But the occurrence of constriction of the vagina we of course do not question.

Gynæcological Teaching on the Phantom.—Professor Winckel, of Munich, in a lecture published in the *Archiv für Gynäkologie* (Band xxiii., Heft 2) remarks on the importance to practitioners of some practical training in the performance of the common operations of gynecological surgery, and on the obstacles which prevent the dead subject from being used for the purpose of teaching these manipulations. Winckel has devised a means of giving the requisite demonstrations. He takes an ordinary phantom, such as is used in midwifery lectures, *i. e.*, a pelvis, with limbs, etc. From a female cadaver he cuts out in one mass bladder, rectum, uterus, vagina, and vulva. These structures are thoroughly washed, and soaked for some weeks in corrosive sublimate solution, with a quarter of its volume of glycerine added to destroy putrefactive germs. This remove smells and renders the parts supple. Then with india rubber bands and sutures the parts are fixed in their proper position inside the pelvis of the phantom. When this has been properly done, the teacher can demonstrate on the parts so prepared the use of the different specula; the sound, perineal, vaginal and vesico-vaginal plastic operation; removal of urethral caruncle; incision of cervix uteri; Emmett's operation, etc., in a very satisfactory manner.

Tissue Change in the Fœtus.—Dr. Wiener, of Breslau, contributes to the *Archiv für Gynäkologie* (Band xxiii., Heft. 2) a long argumentative article on the question of tissue change in the fœtus. Some regard the changes which take place in the growing fœtus as being almost entirely those of growth, new

material being added and assimilated, but little if any cast off and excreted. We cannot in the space at our disposal attempt a summary of Wiener's arguments, which are very exhaustive and detailed, but we quote the conclusion at which he arrives. "The amount of tissue change in the fœtus in utero, although less than that in the infant after birth, is by no means inconsiderable, and probably bears a certain relation to the size and rate of growth of the fœtus; and the excretory products of fœtal tissue change are so abundant that a regular and free secretion of the fœtal kidneys is the consequence."—*Medical Times and Gazette.*

OBSERVATIONS OF THE DETERMINATION OF THE HEARING POWER. *By* W. LAIDLAW PURVES, M. D.

Despite the numerous proposals and methods of testing the acuteness of hearing in affections of the ear, the instruments to which surgeons almost exclusively confine themselves for that purpose are the watch and the tuning-fork. That with such, a complete examination cannot be made will be admitted by all who have paid attention to the subject. The want of an instrument by which the intensity of speech could be regulated, and of a method of determining the accommodation of the ear is still felt. That something in this direction may be arrived at by a modification of the telephone we may reasonably hope. Meantime I wish to direct attention to one or two points regarding the determination with the present instruments at our command.

In testing with the watch or other acoumeter of known intensity, the acuteness of hearing is determined by measuring the greatest distance at which the vibrations emitted by the instrument are heard through the air. Should that correspond to the distance already determined to be that of normal hearing, the hearing through the usual sound-conducting appara-

tus is considered normal. Should it be greater or less it is + or − and the amount is noted. The watch may also be employed for roughly testing the power of audition through the cranial bones by mapping out the positions on the cranium at which a certain watch is heard, but the tuning-fork is a much more convenient instrument for this purpose, as by it the intensity of the sound may be increased at will, within limits which suffices for our purposes, and the instant at which the perception of vibrations ceases can be more exactly stated.

The acuteness is here determined by striking a prong of the tuning-fork against some hard substance, and placing the extremity of the handle on some part of the cranium, the teeth, vertex, or mastoid process, usually noting the weakest vibration perceived by the patient, and then measuring the time the note continues to be heard by a normal ear after the transference of the fork to a corresponding part of the observer's head. This does not give us an exact result, but for usual clinical purposes it is sufficiently so. If the fork be transferred on the cessation of the auditory perception from the bone, and placed closely to the meatal opening, the sound will continue to be heard for some time longer should the conducting organs be in a normal condition. It is to the length of time which a normal ear continues to hear these aerially transmitted vibrations that I wish to draw attention.

The duration of the meatal after the mastoideal hearing is influenced by several factors, viz., the position of the fork on the cranium, the note of the fork, the size of the fork, and probably by other agents to which we need not here refer.

From the teeth the waves are conveyed to the auditory nerve, probably better than from any other part, but as they are not always present nor in a condition to be placed at the

surgeon's service, and as the end to be attained can be reached more conveniently from the mastoid, it has been chosen as the spot through which perosseal audition is conveyed.

Causing a C = 512, with prongs 4½ in. in length, to vibrate, and placing it on the portion of the mastoid at which it is best heard, and then on the cessation of the perception through the osseous structures transferring it to the meatal orifice, I find that it continues to be heard by me for thirty seconds. On determining this with what are considered normal ears, I find this ranges from twenty-five to thirty-five seconds, depending partly on the age of the patient. Can we use this ratio of the meatal mastoideal hearing in any way for the more exact localization of affections, and the apportioning of the amount of loss to its proper seat, where both the conducting apparatus and the nerve are implicated?

If the tuning-fork ceases to be heard by the patient and a healthy observer at the same moment, we conclude roughly that the acoustics of both are equally sensitive to that tone. Should, however, the patient hear vibrations to which the observer's acoustic does not respond, we conclude that either the acoustic of the patient is more sensitive or that there is some additional reflection by some hindrance to the dispersion of wave-sounds from the ear. The number of seconds during which the vibrations are heard after they are lost to a healthy ear is noted as + per mastoid. To determine to which locality we must assign this, the duration of the meatal hearing after the cessation of the mastoideal is determined. Should this also be above the normal standard a hypersensitiveness of the acoustic is determined. But should the meatal hearing be of less than the normal duration after the mastoideal has ceased, we conclude that vibrations to which the acoustics ought to respond through the meatus are not of sufficient strength to set in motion the conducting apparatus, and we

have thereby a gauge as to the amount of obstruction to the passage of vibrations through the normal channels.

Should the acoustic be deficient but the meatal hearing be in the same proportion to the mastoideal, the conducting media may be taken as normal, and the deficiency of the acoustic taken by the number of seconds during which a healthy nerve detects the pulsations after the removal of the fork to the mastoid of the observer. Or, by closing the meatus of the patient, and so causing an increase to and perception of the vibrations by the deficient acoustic as long as they are detected by a healthy nerve through the mastoid, the difference of the meatal hearings thereafter will give the deficiency.

To make these and many such like determinations conveniently, a stop-watch, a large fork, and an apparatus formed to cause the fork to be heard by the patient and by the observer at the same time and with equal pressure, are required. By these the physician may determine the functional power of the acoustic, and without visually examining the meatus and cavity assign in a general way the loss, if any, to its proper position. The determination, as generally carried out, must lead to false conclusions if the difference of the meatal from the mastoideal hearing, and the ratio of the two are not kept constantly in view. We require numerous observations before we can fix a standard of the two hearing powers at different ages and of the proportion of one to the other, but having gained these, we shall have added another step to the exactitude of our diagnosis. That many acoustic changes which are not detected occur in early stages of different nervous diseases I feel certain, and I would assure neurologists that one hour's application would enable them to add a valuable indication to their means of detection of early abnormal deviations.—*Guy's Hospital Reports Volume 42.*

PERSONALS.

Dr. E. Schmidt has been reëlected attending surgeon, and Professor J. E. Owens has been elected consulting surgeon of Michael Rees Hospital.

Drs. T. McDill, H. H. Frothingham, — — Hartman, F. W. Harkness, A. W. Caldwell, S. P. Black, E. Van Hook, and T. Davis have been appointed resident physicians to Cook County Hospital.

Drs. J. J. Alderson, N. H. Pierce and C. A. Foulks have been appointed resident physicians to St. Luke's Hospital.

Drs. E. S. Parker and L. E. Lawson have been appointed resident physicians to Mercy Hospital.

Drs. R. G. Collins and L. E. Frankenthal have been appointed resident physicians to Michael Rees Hospital.

Dr. F. Eggleston has been appointed resident physician to the U. S. Marine Hospital.

Dr. J. H. Hoelscher has been appointed resident physician to the Alexian Brothers Hospital.

Dr. L. L. McArthur has been appointed to the surgical department of the Dispensary of St. Luke's Hospital.

LOCAL NEWS.

CHICAGO MEDICAL COLLEGE.—The twenty-sixth annual commencement exercises of the Chicago Medical College, the Medical Department of the Northwestern University, were held in the Grand Opera House, on Tuesday, March 24th.

The degree of Doctor of Medicine was conferred by President Cummings of the University upon forty-one members of the graduating class, who were reported by the Dean of the College, Professor N. S. Davis, as having complied with all the prescribed requirements of the college to entitle them to that degree. The Secretary of the College, Professor Walter Hay, announced the names of the successful competitors for the different prizes offered. A banquet was tendered by the faculty of the college to the Alumni on Tuesday evening, at the Leland Hotel, at which Professor H. A. Johnson presided.

The regular course of lectures, for practitioners, began on the following day and continued four weeks.

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ORIGINAL COMMUNICATIONS.

ARTICLE I.

TREATMENT OF CROUP.

By F. E. WAXHAM, M. D., *Professor of Diseases of Children, College of Physicians and Surgeons, of Chicago.*

(Read before the Chicago Medical Society, April 20, 1885.)

In the treatment of pseudo-membranous laryngitis a host of specifics have been proposed from time to time. The fatality of the disease is so great that it is not strange that so many different remedies have been advocated. Some place their faith in emetics, others in veratrum viride, others in mercury, still others in various inhalations, and so on until almost the whole catalogue of remedies has been exhausted. It is undoubtedly true that we possess no single remedy that can be depended upon with which to successfully treat this disease, even in a small proportion of cases. Neither will any one line of treatment be appropriate in every case. In many cases the danger is from asthenia. If we can only keep up the strength, the child will struggle through. In these cases, iron, quinine,

nourishment and stimulants, are our most important agents. In other cases the great danger is from suffocation, and no amount of strength would be of avail, unless we can clear the larynx of the false membranes, or make an artificial opening through which respiration may be conducted.

In other cases we are not called until the child is upon the verge of suffocation, and tracheotomy, or intubation of the larynx, is our only resort.

In other cases, again, we are called early, and oftentimes witness the slow, unrelenting progress of the disease in spite of our most earnest efforts to arrest it.

Not only should the treatment vary in different cases, but in the different stages of the same case. We shall be much more successful in the treatment of this disease if we meet the various indications as they arise, than if we depend upon any single remedy. Among the most important indications we may enumerate the following:

- 1st. Prevent as far as possible the formation of false membrane.
  - Cold applications,
  - Blister,
  - Quinine,
  - Digitalis,
  - Aconite,
  - Veratrum,
  - Emetic,
  - Purgative.
- 2d. When formed cause its dissolution and expulsion as quickly as possible.
  - Spray.
    - Pancreatin,
    - Lime water,
    - Liq. potassæ,
    - Lactic acid,
    - Phosphoric acid.
  - Bichloride of mercury,
  - Lactate of iron,
  - Emetics.
- 3d. Control laryngeal spasm.
  - Opium,
  - Bromide of ammonium.
- 4th. Prevent complications
  - Uniform temperature.
- 5th. Support the strength of patient
  - Nourishment,
  - Stimulants.
- 6th. In case of threatened suffocation, tube the larynx or perform tracheotomy.

Among the agents for meeting the first indication, the prevention of the plastic exudation, the greatest confidence has

been placed in cold applications, blisters, an emetic or purgative and quinine, digitalis, aconite or veratrum.

As the disease is generally conceded to be a local inflammation, and the membrane an exudation resulting therefrom, it is certainly clear that so far as we are successful in controlling the local inflammation, so far will we be successful in limiting its product, the exudate. Hence the benefit from cold applications, as advised by Professor Peaslee, and the use of the blister, in which Professor Earle, of this city, has much confidence; the use of veratrum viride and emetics, as advised by Professor Fordyce Barker, or in its place digitalis, or aconite if there is danger from asthenia; for the same reason, large and frequent doses of quinine are indicated.

To meet the second indication, to cause the dissolution and expulsion of the false membrane, we must resort to solvents and emetics. From various experiments with different solvents I am satisfied that trypsin is the quickest and most satisfactory. Next in order, lime water, then liquor potassæ, and then ten per cent. solution of lactic and dilute phosphoric acids. These solvents should be used in the form of spray from an atomizer.

Dr. Henry Dwight Chapin, in a very able article published in the *Medical Record*, March 7, 1885, advocates the use of trypsin, and gives the following formula:

℞

Fairchild's Ext. Pancreatis..... .....gr. xv.
Sodii Bicarb.....gr. iij.
Glycerin ....3j.
Aq. Dest.....3vij.
M.

My experiments confirm entirely the value of this combination. I prefer, however, using equal parts of glycerine and water as the menstruum.

A very important consideration referred to by Dr. Chapin is the proper form of atomizer. As used in the ordinary hand atomizer these solutions are of little benefit, as it is a question as to how much of the solution reaches the larynx. The atomizer, as recommended by Dr. Chapin, should terminate in a rounded nozzle, that should be directed downward at a right angle to the stem of the atomizer. This can be thrust far backwards in the mouth without fear of injury, and the spray thus directed into the larynx. These solutions, to be of benefit, must be used frequently, at least every half hour.

In regard to lime water, it is easily proven to be one of our quickest solvents of false membrane. Time and again I have seen false membrane dissolved in an officinal solution of lime water, in from seven to twenty minutes. While lime water is second only to trypsin in its solvent power, yet the vapor of lime, in whatever form, is useless as a solvent. At one time I was somewhat enthusiastic over the inhalation of the vapor of lime in the treatment of croup, and exhausted considerable time and ingenuity in perfecting suitable apparatus for its convenient administration. Finally, after several cases terminated fatally, although they were nearly smothered with it, I became skeptical, and am now fully convinced that it possesses no solvent power. Whatever benefit is to be derived from it is due simply to the warmth and moisture.

A two per cent. solution of liquor potassæ, and ten per cent. solutions of lactic and phosphoric acids, are less active solvents than either officinal lime water or trypsin.

Of the internal remedies for promoting disintegration and separation of the false membrane, perhaps those that have received the highest sanction are lactate of iron and bichloride of mercury. I have never used the lactate of iron being discouraged by the slow digestive action of lactic acid. The

bichloride of mercury I have used thoroughly in five cases' both before and after tracheotomy, only one case terminating favorably. In this case the favorable termination was ascribed to other treatment as well. For causing the rejection of the false membrane almost every emetic has been employed and advocated. I am satisfied that alum, or alum combined with ipecac, is as good as any.

The third indication, the relief of the laryngeal spasm, is best met by the use of opium or bromide of ammonium. Opium serves a double purpose, as it relieves pain as well as spasm.

The patient should be supported by the most nourishing diet, and by stimulants if necessary.

Complications will be avoided in a great measure by keeping the room at a uniform temperature. In case of threatened suffocation it is our plain duty either to perform tracheotomy or tube the larynx.

A desperate case of croup has just come under my observation in a child four years old, and a brief history may not be uninteresting.

The disease commenced in the form of nasal diphtheria, with considerable inflammation and swelling of the tonsils. There was a profuse muco-purulent discharge from the nostrils, and the breathing nasal in character. After one week a slight, thin membranous exudation appeared upon the tonsils, and the next day a croupy cough occurred. Respiration became gradually embarrassed, the dyspnœa increased and became urgent, and the respiration characteristic of pseudo-membranous laryngitis. The cough gradually became more and more husky, and the voice whispering. The pulse ranged at about 120 to 130; temperature, 101° F.

Treatment.—Quinine, gr. 1¼, every 2 hours, alternating with gtt. ij. tr. chloride of iron, combined with chloride of pot-

ash, glycerine and simple syrup, vapor of lime from a kettle over an oil stove constantly, and the following mixture by means of the hand atomizer:

℞

Fairchild's Ext. Pancreatis.....gr. xxx.
Sodii Bicarb..... gr. vj.
Glycerin ....
Aq. Dest..... aa. ℥j
M.

A large blister was also applied over the region of the larynx. On the third day after the occurrence of the croupy cough, the respiration being difficult, the voice and cough suppressed, the iron mixture was omitted, and $\frac{1}{24}$ gr. of bichloride of mercury given every hour. Quinine and other treatment continued. Warm poultices covered with oil silk were also applied to the chest.

Within forty-eight hours after the administration of the mercury a number of large masses of false membrane were rejected, measuring from 1½ to 2 inches in length by ½ inch in width, with immediate relief to the urgent dyspnœa.

False membrane was occasionally rejected in small masses for the next two or three days.

On the third day after the first rejection of false membrane, the temperature was suddenly elevated to 104° F., respiration, 20; pulse, 160, and very feeble.

The child was greatly prostrated and covered with a fine rash closely resembling the eruption of scarlet fever, causing the child much annoyance from the intense itching. The cough, short and painful. Physical examination revealed a broncho-pneumonia. The bichloride of mercury, which had been given less frequently after the expulsion of the false membrane, was now discontinued, but the quinine was continued,

alternating with tr. digitalis, combined with carbonate of ammonium and syr. of squills, giving each every four hours.

The cough within a day or two became loose and less painful, and the sputa characteristic of pneumonia. There was no recurrence of the membrane within the larynx, the respiration continuing unembarrassed, but the voice remained weak, and more or less whispering, for several days. The child made a good but gradual recovery.

In this case several masses of false membrane were rejected at different times. Four pieces, each measuring one and a half inches in length by one-half inch in width, were subjected to the following experiments:

1st. One of these masses of membrane was pinned to a board ten inches from the spout of a kettle containing a turbid solution of lime water, and heated by an oil stove. For three hours a constant stream of steam was poured forth upon this membrane without any perceptible effect.

The membrane was not softened or disintegrated in the least.

2d. The membrane that had been subjected to the steaming process without any seeming effect was placed in a two ounce vial containing an officinal solution of lime water. In seven minutes it was entirely and completely dissolved.

3d. Another mass of membrane was attached to a cork, and subjected every half hour to a spray from a hand atomizer, of the following solution:

℞

Fairchild's Ext. Pancreatis.....gr. xv.
Sodii Bicarb .....gr. iij.
Glycerin .....ʒss.
Aquæ .....ad. ʒj.
M.

In one hour and a half, and after four applications of the spray, the membrane was entirely disintegrated.

4th. Another mass of equal size was subjected in the same manner, to a spray of officinal lime water. In two hours and a half, and after six applications of the spray, the membrane was completely dissolved.

5th. Still another mass of membrane of the same size and apparent consistency, was subjected under exactly the same circumstances to a spray of a ten per cent. solution of lactic acid. In three hours and a half the membrane was somewhat softened, but not disintegrated and completely softened as in the previous cases.

The conclusions to be deduced are:

1st. A solution of pancreatin, with soda and glycerine, is the quickest and most satisfactory solvent.

2d. Lime water in the form of spray is a rapid solvent of false membranes, but does not act as quickly as a solution of pancreatin.

3d. The vapor of lime, however thoroughly applied, is entirely useless as a solvent.

4th. Lactic acid is not a satisfactory solvent.

If I may be permitted to still further encroach upon your time and patience, I would refer briefly to tubing of the larynx.

I am convinced that the profession in Chicago, while they sanction tracheotomy, are not enthusiastic over it, and that they will gladly accept any substitute and give it a fair trial. Such a substitute has been proposed in the tubing of the larynx. To Dr. O'Dwyer, of New York City, belongs the great credit of originating this bold and ingenious method of treating croup. While the larnyx has been tubed, from time to time, for laryngeal obstructions, yet none were bold enough to use tubes of sufficient length to drop into the trachea and to leave them in

situ. Although occasionally performed, the method was entirely different from that advocated and practiced by Dr. O'Dwyer. To Dr. O'Dwyer belongs the entire credit of tubing the larynx, as will be illustrated to-night.

We can see no objection that can be raised to this method of treating croup that does not apply to tracheotomy as well. True, the false membrane may extend below the tube and cause obstruction in the trachea, but this is just as likely, or even more likely, to occur after a tracheotomy.

The advantages of intubation are:

1st. That with a little dexterity and practice it can be very easily and quickly performed and without danger.

2nd. We have no mutilation or disfigurement of the patient.

3rd. We have no wound that may be the cause of shock or that may be the source of systemic infection.

4th. The laryngeal tube can be worn much more easily, with less irritation, than the canula after a tracheotomy. Coughing and expectoration occur just as easily.

5th. It does not require the close and unremitting care of the medical attendant, as does a tube after tracheotomy.

6th. The air that reaches the lungs is warm from its contact with the upper air passages, and not as likely to cause bronchitis or pneumonia.

7th. Much less objection will be raised by parents against tubing.

As these instruments have been but recently obtained, my experience is limited to a single case, which may not be uninteresting.

On Sunday last, April 19th, I was called to attend a little child two years and one month old, suffering from true croup. The child had been sick for two or three days, and respiration had been very difficult during the whole of the previous night.

Upon examination, false membrane was observed upon both tonsils, which were considerably swollen and inflamed. The cough was husky and frequent, and the voice whispering. The pulse very rapid and feeble. The respiration was labored, there being great difficulty in expiration as well as inspiration. The face deeply flushed and covered with perspiration, while with every inspiration there was depression of the soft tissues at the base of the sternum and underneath the clavicles.

An emetic was administered and considerable ropy mucus expelled, but with little relief to the urgent dyspnœa.

At 1 P. M., Sunday afternoon, the child was in a comatose condition, the head thrown far backward, the features of a deadly pallor, the pulse feeble and rapid, and the respiration difficult in the extreme. The child was in the last stages of suffocation. In this condition the larynx was tubed without difficulty and without resistance, and with immediate relief to the urgent symptoms. The breathing at once became easy and tranquil, the natural color returned to the lips and face, and the child soon fell into a quiet sleep.

At 5 P. M. the patient was seen by Dr. Steele as well as myself. Respiration, 25 per minute; pulse, 120, and of good strength; temperature, 103.8° F. The little patient seemed bright, and interested in what was going on around him. He ate half a cup of soft bread moistened with milk, eagerly, and then teased for candy. Water and milk whenever given provoked coughing, but soft bread could be easily swallowed. The patient was given four grains of quinine every two hours, per rectum, and frequently bathed with cool water.

9 P. M. Respiration, 48; pulse, 125; temperature, 103° F. The patient bright and inclined to be playful.

1:30 A. M. Tube rejected after remaining in position twelve hours. The child was seen one hour later, when the symp-

toms being again urgent, the tube was replaced with immediate relief. Pulse, 130; respiration, 32; temperature, 101½° F.

April 20th, 9 A. M. Pulse, 130; temperature, 101°F.; respiration, 44. The respiration now indicated extension of false membrane downward. It was becoming more labored and rasping in character.

1 P. M. Respiration very much embarrassed and the child becoming very restless and livid in color. The tube was now removed, and as respiration was as difficult with as without it, its further use was abandoned. The child died at 7 P. M., thirty hours after intubation.

We cannot judge of the value of any operation from a single case. We must withhold our judgment until a considerable number of cases have been recorded, and only until then can we determine the value of intubation of the larynx. We certainly should feel very hopeful that it will soon be considered a legitimate operation.

3449 Indiana Avenue.

ARTICLE II.

PEROXIDE OF HYDROGEN AS A MEDICINAL AGENT.

By BOERNE BETTMAN, M. D., *of Chicago.*

(Read before the Chicago Society of Ophthalmology and Otology, December, 1884.)

During the last decade great advances have been made in aural therapeutics. The old remedies heretofore employed have in a great measure been substituted by others, whose introduction was actuated by the revolutionary antiseptic measures pervading all branches of medicine. Aurists were not behind hand in applying the principles expounded by Lister. Carbolic acid found its way into the recesses of the aural cavity

to the detriment of the mighty horde of bacilli. The alarm had been sounded, and the watchword, let no guilty one escape, was proclaimed over the land.

The first step towards reform, towards rational medication, had been instituted, forming an epoch in the history of otology. It was soon discovered that carbolic acid, although in very many cases highly efficient in checking purulent discharges, could not be employed as a germicide; a solution possessing such properties (15%) being too strong, and not tolerated by the sensitive mucous membrane.

The boracic acid treatment proposed by Bazold, therefore, immediately found many advocates. So pronounced and rapid are the effects of this method, and so numerous the good results it has effected, that we are almost willing to promise a cure in every case of *Otitis Media Purulenta.* The bichloride of mercury has also sustained well the severe test to which it has been subjected, and may be classified among the list of remedies with which happy results may be obtained in purulent discharges from the ear. Iodoform also belongs to this category.

I desire this evening to call your attention to another equally efficient remedy, which, in my hands, has proved of the greatest value in the treatment of diseases of the ear, characterized by a purulent or muco-purulent discharge. Peroxide of hydrogen, discovered by Thenard in 1818, for many years known only to the professional chemist, was introduced into medical literature by Dr. B. W. Richardson, 1855. It was for a time extensively used, then fell into oblivion, and only lately reclaimed to the medical world by the unceasing labors of Dr. Coffin, and especially Dr. W. A. Harlan, of this city.

It has been principally employed by dentists for the treatment of alveolar abscesses. With the exception of two cases,

reported by Dr. Prince, and those recorded by Dr. LeRoy Walker, I have found no mention of it in American aural or ophthalmic literature. It has been employed in the clinics of DeWecker, Landolt and other Parisian oculists. It is a highly prized antiseptic, and as such of inestimable value as a local agent.

The usual method of preparing the pure peroxide of hydrogen* is by decomposing peroxide of barium with hydrochloric acid. The chemical reaction is represented by the following equation: $Ba\ O_2 + 2\ H\ Cl = H_2\ O_2 + Ba\ Cl_2$. The chloride of barium is removed from the solution by the addition of sulphate of silver, which precipitates the barium as sulphate of baryta, and the silver as chloride of silver, thus:

$Ba\ Cl_2 + Ag_2\ O\ SO_3 = 2\ Ag\ Cl + Ba\ O\ SO_3$. The precipitates are allowed to subside, and the clear liquid evaporated in the exhausted receiver of the air-pump over a dish of oil of vitriol to absorb the water, which evaporates much more rapidly than the peroxide.

In its pure state it is a colorless sirupy liquid of a slightly bitter taste, and possesses a faint odor of chlorine. Its sp. gr. is 1.455. It is a highly unstable compound, decomposing rapidly when exposed to air and liberating its oxygen. By virtue of this property it owes its value as a therapeutic agent. The dilute substance, as sold for medicinal purposes, is more stable, and may be heated to a high temperature without losing any of its properties.

*The following table prepared by M. Miquel, of the Observatoire de Montsouris, shows the comparative value of the various antiseptics. The minimum quantity of the compound is given which will prevent the formation of germs in 1000 c. c. of beef tea:

*Bloxam's Chemistry, Inorganic and Organic. Page 84.

*(Bied. Centr.) Weekly Medical Review. Vol. xl., No. 1.

	Grms.
Mercurous iodide	0.025
Silver iodide	0.03
Hydrogen peroxide	0.05
Mercuric chloride	0.07
Silver nitrate	0.08
Osmic acid	0.15
Chromic acid	0.20
Iodine	0.25
Chlorine (gaseous)	0.25
Hydrocyanic acid	0.40
Bromine	0.60
Chloroform	0.80
Copper sulphate	0.90
Salicylic acid	1.00
Benzoic acid	1.10
Potas. chromate	1.30
Picric acid	1.30
Lead chloride	2.10
Mineral acids	2.00–3.00
Essence bitter almonds	3.20
Phenol	3.20
Potas. permanganate	3.50
Aniline	4.00
Alum	4.50
Tannin	4.80
Arsenious acid	6.00
Boracic acid	7.50
Chloral hydrate	9.00
Ferrous sulphate	11.00
Amyl alcohol	14.00
Ethyl sulphide	22.00
Borax	70.00
Ethyl alcohol	95.00
Potas. thiocyanate	120.00
Potas. iodide	140.00
Potas. cyanide	185.00
Sodium thiosulphate	275.00

I have made quite a number of observations with the microscope regarding the action of peroxide of hydrogen upon pus. If several drops of pus taken from a discharging ear be placed upon a slide and a drop of dioxide of hydrogen be allowed to flow under the covering glass the following phenomena will be noticed:

The pus corpuscles and bacteria are put into lively motion, small bubbles of gas, the liberated nascent oxygen, are now evolved. The pus corpuscles gradually lose their spherical form, shrink, usually assuming a crescentic form, and are heaped up a mass of detritus. The bacilli are affected in a similar manner. In a few seconds the active bodies are transformed into a dead mass, intermixed with the decomposed pus corpuscles and surrounded by seething bubbles of gas.

Whether the bacteria are totally destroyed never to be resuscitated can only be determined by a series of experiments, (attempts at cultivation) which I reserve for some future occasion; although pure oxygen is known to kill bacteria outright, which in all probability will be verified by the experiments just alluded to.

Its therapeutical action in treatment of alveolar abscess has been explained by Harlan, as follows:

*"When the peroxide of hydrogen comes into contact with pus the extra O it contains is liberated so rapidly that the hydrogen and sulphur of the tissues immediately combine, resulting in $H_2 SO_4$, or sulphuric acid in small quantity, sufficient to glaze the surface of the pus producing area, thus affording an opportunity for the exuding protoplasmic material to organize into new tissue. The remaining unsatisfied atoms of O quickly distend the pus sac and force the contents through the root or fistulous opening."

I have employed the remedy during the last six months in more than thirty cases of *Otitis Media Purulenta.* In every instance, my most sanguine expectations have been realized. The preparation employed is that sold only by chemists, containing twelve volumes of gas. I first thoroughly cleanse the ear with warm water, dry the organ by repeated introductions of

*Transactions of the American Dental Association, 1884, page 40.

absorbent cotton and then instil 8 to 12 drops of the oxygenated water. Contact with the pus and diseased tissues sets free the oxygen, visible as gas bubbles, which united with the expelled pus forms a seething, frothy mass, forcing its way outwards from its narrow confines. This decomposition goes on for several minutes. The patients rarely if ever complain of pain. They invariably speak of a boiling or effervescence in the ear accompanied by a sensation of heat, following immediately upon the introduction of the remedy. After cleaning the parts, the mucous membrane of the middle ear is seen to have assumed a very faint milky-white appearance. Repeated instillations are accompanied by less effervescence, until at last it remains in the ear as a perfectly clear liquid, no longer cognizable by the patient by the evolution of gas. I have also been informed by many individuals, that as the discharge decreased, the burning sensations produced by the remedy increased in severity. The strength of the remedy may be weakened by the addition of water.

The liberated gas enters the most hidden and remote recesses of the middle ear, forcibly dislodging the decomposing material and destroying bacteria embedded in the tissue meshes. If the perforation of the *Membrana Tympani* is small, the dioxide can be injected directly into the middle ear.

I have also employed this remedy successfully in cases of chronic dacryocystitis, and in one case of trachoma which had run its course, but where there still existed a mucid discharge. I cannot do better than relate the clinical history of one of these cases to demonstrate the curative effects of the medicine.

Miss Y. sought my advice for a chronic dacryocystitis. There was an extensive swelling of the sac, which had existed for several years. On pressure, a large quantity of muco-purulent matter was expelled into the conjunctival sac.

Introduction of a Bowman's probe revealed the presence of a tight stricture, which was forced under the influence of ether. The usual routine medication, with astringents, carbolic acid, introduction of gelatine bougies and probes, ameliorated the difficulty; but although continued for a period of six months, was not able to completely check the discharge. I therefore determined to try the peroxide of hydrogen. The very first injection was followed by a decided improvement; the discharge ceased entirely on the third application. Continued introduction of the dioxide was not accompanied by effervescence, proving conclusively the absence of inflammatory products. Contact of this medical agent with the eye produces a sharp, stinging pain, which is rapidly relieved by applications of cold water. I have thus far obtained perfect cures in four cases of dacryocystitis of long standing.

Another case still under treatment has been greatly improved and will soon be dismissed.

The preparation of peroxide of hydrogen employed in the above cases was obtained from Mr. Sargent, 125 State street. It was marked chemically pure, and proved to be so, testing it with blue litmus paper. The finer chemical tests might reveal the presence of a trace of free acid, but of so minute a quantity as to form no factor in the action of the remedy.

113 Adams St.

ARTICLE III.

TREATMENT OF ECZEMA. *By* HENRY J. REYNOLDS, M. D., *Professor of Dermatology in the College of Physicians and Surgeons, Chicago. Dermatologist to the West Side Free Dispensary, Chicago. Surgeon to the Department of Genito-Urinary Diseases, West Side Free Dispensary, Chicago.*

[Read before the Illinois State Medical Society, May 21, 1885.]

As this subject is a very broad one, and one, in order to treat which fully, would occupy too much time, my remarks will be directed more particularly to the principles necessarily involved in the same; an intelligent knowledge of which always suggests the particular remedy or form of treatment that will be applicable in each case as it is encountered. This fact will be the more fully realized when we remember that upwards of one hundred names have been made use of by the various authors to designate different forms of the disease. Brief reference will also be made to a few remedies which I have myself found to be useful in certain cases.

I shall assume, as experience has led me to believe, that while there may be constitutional predisposing causes for the disease, the direct or exciting cause is usually external; certain it is, however, that many forms may be produced by external irritation, and that all may be aggravated by it. A consideration of these facts suggests the idea that the treatment, to be effectual, must be, to a great extent, external or local in character; and again, as many cases tend to spontaneous recovery, when the part has been simply protected from external irritation, for example, the eczema intertrigo, or that produced by filth and chafing, that resulting from parasitic irritation, the application of poisonous substances to the skin, etc., the rational inference is, that the external treatment must be directed with

a view to removing all irritation of a local or external character.

In a disease which assumes so many different forms, no specific line of treatment or rule can be laid down that will be applicable to all cases; the remedies must be adapted to the particular existing conditions met with in each case. What would prove useful in one stage, in one form, in one locality or in one person, may be not only useless in another, but absolutely injurious. The secret of successful management in this disease, more than many others, perhaps, lies not so much in the possession of an unlimited knowledge of remedies as it does in the display of common sense and good judgment in the adaptation of remedies to conditions met with. The pathological condition being absolutely identical in no two cases, so the treatment must vary, and a knowledge of specified lines of treatment or certain combinations of drugs said to be useful, with a neglect of consideration of the principles upon which treatment should be based in each individual case, in this, as in all other diseases, is liable to mislead.

With these few ideas constantly in mind, with the confidence and coöperation of the patient, with the possession of good judgment and common sense, with even a limited amount of scientific knowledge, the physician is prepared to intelligently undertake the management of each case as it presents itself, no matter what its particular form or name may be, and in the majority of cases, under such circumstances, is warranted in guaranteeing a cure, though in a disease which, untreated, naturally tends to chronicity, it is of the utmost importance that in rendering a prognosis the physician secure for himself an abundance of time in which to complete the cure; the cooperation of the patient with regard to the length of time he is willing to persist in carrying out the prescribed treatment is as

essential to the ultimate success of the same as the remedies made use of. The physician is many times defeated in a cure, in chronic cases, solely by lack of persistence in the treatment on the part of the patient.

For the purpose of convenience I think all cases presented for treatment, regardless of the name, location, or cause, may be intelligently managed by dividing them into three classes: First, those the features of which are mainly of an *acute* character; second, those forms wherein the predominating features are *sub-acute* in type; and third, that class of cases that take on the indolent or *chronic* form. The treatment may then be arranged accordingly, always subject, however, to constant variation according to conditions warranting the same; for instance, the acute may very soon take on a sub-acute form; the sub-acute may approximate in character the acute or chronic, and the chronic may at any time, owing to circumstances perhaps not under the control of the physician, develop acute symptoms. Here, as before stated, the physician is called upon for common sense, good judgment, power of discrimination, etc., which are more essential elements in successful treatment than an unlimited knowledge of remedies.

It is necessary, first, then, before adopting any line of treatment, to determine what the predominating features are: whether they be acute, sub-acute, or chronic; which, to a naturally close observer, with even a limited amount of experience, is a matter of no great difficulty.

Acute.—When the disease assumes this character, as in all other acute inflammatory affections, the great principle necessarily involved in successful management, is *rest;* and this does not necessarily simply imply quietude of the organ or member but *rest from every irritating influence;* whether it be motion, friction, scratching, parasitic, or atmospheric irritation, too fre-

quent washing the dirt naturally incident to the calling of the individual, etc. To accomplish this, soothing and protecting measures are called for, among which may be mentioned equal parts of sweet almond, linseed or olive oil and lime-water. Various poultices answer as well or better in some instances, which, to be most soothing, require to be at least as warm as the temperature of the body. To either of these preparations a little laudanum may be added, if thought advisable, and to avoid too frequent exposure of the part in changing the poultice should be covered with oiled silk. With this poulticing, soothing treatment, the part will invariably pass rapidly into the sub-acute condition, when the treatment may vary accordingly.

Sub-acute.—In this class of cases, which may assume this form from the beginning, or may follow the acute, the part should first, if necessary, have oleaginous remedies applied three times a day for one or two days, for the purpose of loosening up dried crusts and scales. It should then be carefully washed with soap and warm water till well cleansed. I think, as we now find the condition, the various dusting powders answer the best purpose, and it is my almost universal custom, in both dispensary and private practice, to use impalpably fine boracic acid for this purpose. This powder seems to work particularly well if there be a tendency to pus formation, drying it up in a very few days invariably. Scratching, in this, as in all other forms, must be imperatively prohibited: no treatment will be effectual if the part be kept irritated by scratching, and the mildest sub-acute or chronic form can at once be aggravated into an acute condition thereby; besides, it not only fails to relieve the itching, but invariably aggravates it. A little camphor, finely pulverized and added to the boracic acid, sometimes has a tendency to relieve the itching. In my experience,

however, there is nothing will prove so effectual in relieving itching as *total abstinence from scratching*, and to this end it will frequently be found necessary to either muffle or tie the hands of infants and children. I have frequently had good results from the use of a mixture of equal parts of tinct. camphoræ tinct. myrrhæ and tinct. opii, which will be well tolerated unless there be too much abrasion. The part may be washed once a day or every second day with warm water and soap, which should, in this stage, be only mildly alkaline, some of the hard or soda soaps being the preferable form. It must be borne in mind, again, however, that the symptoms may now at any time assume either the acute or chronic form, and thereby necessitate a variation in the treatment accordingly.

Chronic.—In this form, which may be chronic from the commencement, or may result from the sub-acute, and in which the predominating features are frequently more the results of eczema, as infiltration, thickening, hypertrophy, etc., than true eczema itself, more active and stimulating measures are required. The soaps, which, in this stage, are used for their stimulating and anti-pruritic effect, dissolving and getting rid of pathological products, which create irritation, induce, prevent physiological action, etc., should be of the strongly alkaline or potash variety, and should be freely used. After thoroughly cleansing, I have frequently had good results from the local application of the ordinary soap liniment, the camphor therein contained acting as an anti-pruritic. The different tarry preparations are very useful, especially in the squamous varieties. In chronic eczema of the leg, with which is frequently associated ulceration and varicose veins—which is frequently chronic only, however, as regards duration, the actual symptoms being often acute—the bandage is always very useful. It, in addition to enforcing the principle of *rest*

from the mechanical irritation caused by the over-loaded veins and capillaries, induces, by its contact with the tissues, absorption of morbid products and allows the parts to regain their tone.

The two following cases, which were treated at the West Side Free Dispensary and made the subjects of clinical lectures by me at the College of Physicians and Surgeons, of Chicago, may be of some interest in this connection:

CASE I. Mr. C., aged seventy-two, came under my observation in October, 1873. The right leg, from knee down, eczematous and discharging pus freely. Ulcer, just above external malleolus, four inches in diameter, also smaller one just above internal malleolus. Leg enormously enlarged and verrucous from hypertrophy and about the same size from knee to instep. Varicose veins. Patient unable to get around without crutches. This condition had existed with varying severity for twenty years and was, in short, so bad that a diagnosis of elephantiasis had previously been made and amputation advised.

The whole leg, ulcer and all, was thoroughly washed with hot water and green soap every day.

When gently wiped dry, it was sprinkled with pure boracic acid, covered with loose cloths, and bandaged with cotton roller. Scratching strictly prohibited and saline laxative ordered to be taken before each meal. This constituted the entire treatment, except that later, when there was less exudation and maceration of the tissues, the rubber bandage was substitued for the cotton, and still later an elastic stocking was worn.

Improvement commenced immediately and continued till ulcers were all healed and hypertrophy almost entirely gone. In six months' time patient was practically well and able to go without the crutches. Is still under observation and all right except that he wears the elastic stocking.

Case II. P. S., aged forty-eight, has general reddened, angry, moist—from exudation—condition of the entire circumference of the lower two-thirds of right leg. Also considerable swelling, intense itching at times, and an ulcer just internal to the crest of the tibia in the middle of the lower third an inch in diameter. Has also varicose veins. Has had trouble of a similar kind for twelve years and has been treated by numerous physicians, with little or no success, all of whom pronounced the trouble syphilitic.

Although there were some suspicious circumstances, examination failed to reveal satisfactory evidence of syphilitic infection.

In the treatment no anti-syphilitic medication was employed but patient treated as in "CASE I." Cure was complete in three months.

Will say, in this connection, that I regard the cotton bandage as much superior to the rubber where there is much exudation, as it allows evaporation to take place. In conclusion, I will refer briefly to the constitutional treatment.

As conditions which predispose to it necessarily aggravate or prolong the disease, it is essential that the constitutional predisposing condition be at least corrected, or that the general system be kept in a condition that will necessarily favor the desired reparative process. I think in the majority of such cases we find a faulty digestion; by the imperfect performance of which function and the consequent taking up by the lacteals of material, which instead of being nutritious and purifying to the blood acts as a poision to it, I think it is fair to presume all diseases are influenced, and many, apparently remote affections, solely depend. I consider it, therefore, very essential that the alimentary canal receive due consideration.

And again, in many eczematous subjects with ruddy complexion and apparently the picture of health, we may have a

good digestion and assimilation but an imperfect *elimination* and hence, of course, a vascular fullness and consequent hyperæmia or congestion of the cutaneous capillaries that may explain the rosy complexion; a condition which only requires the slightest external irritation to kindle an acute eczema. This condition can invariably be overcome by the continued use in small doses before each meal of a saline laxative, of which there is none better than sulphate of magnesium; which, together with reducing vascular fullness and consequent cutaneous hyperæmia, very much favors digestion. In short, measures are always indicated which tend to establish and maintain harmony in the performance of the functions of the various organs of the body. Arsenic, which has always been so popular a remedy in skin affections, I very rarely use; I think in many cases it does harm. Chrysarobin, internally, which has recently been so highly recommended by Stocquart, I have tried without any visible benefit.

2200 Michigan Ave.

EDITORIAL.

THIRTY-FIFTH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY.

The thirty-fifth annual meeting of the Illinois State Medical Society, held at Springfield, on the 19th, 20th, and 21st of May, was marked by many pleasant features. The work of the general and special committees was well performed, although there was a notable absence of several chairmen.

Few papers, containing the results of original investigation, were read, and for the prizes established last year, at the meeting of the Society in Chicago, no papers were offered to the committee.

The Society has ample funds to encourage original research, and it is to be regretted that a portion of the surplus of nine hundred dollars, reported by the Treasurer as remaining in the treasury, should not have been expended in this manner.

The membership of the Society numbers over four hundred. About one hundred and forty delegates and permanent members responded to the roll-call. We sincerely hope that the representation, next year, at Bloomington, will be more nearly adequate, from a numerical point of view.

The reports of the Committees on Medical Legislation and State Medicine were encouraging in the highest degree. This fact is due to the arduous labors of the members of the committees and to the unusually large representation of the profession in the Senate and House. Four members of the regular profession are State Senators, and eight, members of the House.

It is believed that both the Anatomy Bill and the "Campbell" Bill, relative to the commitment of the insane, will become laws before the present session closes.

While discussions were neither frequent nor brilliant, there was a pleasurable absence of all bickering and wrangling.

The social character of the meeting was maintained to an eminent degree. His Excellency, General Richard J. Oglesby Governor of the State of Illinois, and Mrs. R. J. Oglesby, tendered the members of the Society a reception on Tuesday evening. On Wednesday evening, receptions were held at the residences of Dr. and Mrs. B. M. Griffith, Dr. and Mrs. F. L. Matthews, Dr. and Mrs. H. B. Buck.

OPERATION FOR RUPTURED SAC IN EXTRA-UTERINE PREGNANCY.

An editorial appeared in the *Journal of the American Medical Association*, May 23d, 1885, entitled "*Operation for Ruptured Extra-uterine Pregnancy*," which maintains with much of the same positive and unphilosophical dogmatism the position of Wiltshire, Lawson Tait and Knowlsley Thornton with reference to operative interference in all cases of rupture of the cyst in ectopic pregnancy.

An editorial appeared in the *New York Medical Record*, Oct. 25th, 1884, upon the same subject, which contains the following words:

"There is no palliative measure for a ruptured extra-uterine cyst; there is no expectant treatment; and there is no other way known to medicine by which a woman in this condition can be reasonably expected to survive, save by the prompt use of the knife, and there is no reason for thinking that she would die if this be resorted to in time."

It is difficult to conceive of an adequate reason for the in-

dulgence in that *fallacy of generalization* in this connection,—the use of the universal proposition,—unless it be true that "a mixture of lie doth ever add pleasure."

Mr. Lawson Tait's statement, "That the great bulk of such cases (ruptured cyst of ectopic pregnancy) have a fatal termination when left alone," is opposed by an equally positive conviction, expressed by Professor Karl Schrœder: "I, myself, so frequently see cases of tubal pregnancy, in which the diagnosis is positive, pursuing a favorable course, that I consider recovery as the regular termination." (*Karl Schrœder's Lehrbuch d. Geburtshülfe, Bonn. 1884, p. 422.*)

If human opinion is of purely relative value, we are very decidedly of the persuasion that more importance should be attached to the *dictum* of the German observer, as the resultant of greater experience and more extended observation, than to that of the distinguished surgeon of Birmingham. Regard the natural history of the condition:

I. *The sac may rupture, but the egg may remain within and act as a spontaneous tampon.* Such cases, with favorable terminations to the mothers, have been observed by *Wiedersperg* and *Virchow.* (Otto Spiegelberg's Lehrbuch d. Gebertshülfe, Lahr, 1882, p. 290.)

Operative interference under such conditions is plainly contra-indicated.

II. *The cyst may rupture into the ligamentum latum with the formation of a hæmatoma. Schuchardt, and J. Veit (Virchow's Arch., Bd., 89, p. 133. Die Eileiterschwangerschaft, von Dr. J. Veit, Stuttgart, 1884)* have observed this termination. The embryo usually dies, and undergoes reductive metamorphosis, while hæmorrhage is checked by the pressure of the folds of the broad ligament. Primary laparotomy in such cases is obviously contra-indicated, unless the hæmorrhage is uncontroll-

able, or there is reason to believe the embryo will develop in its new location.

IV. *The sac may rupture and the fœtus escape into the peritoneal cavity, with the formation of a retro-uterine hæmatocele. Ollivier, Leclerc, Schrœder, Vignés, Gallard, Karl Braun, Veit, Chiari* and others have observed this mode of termination. Hæmorrhage is a prognostic element of less serious import in these cases than peritonitis. Early operative interference is contra-indicated by the fact that most of these cases recover spontaneously.

V. *The sac may rupture into the peritoneal cavity, and the life of the woman may be threatened by free hæmorrhage, or the resulting peritonitis.* Fatal hæmorrhage even under these circumstances is seldom observed, according to Dr. J. Veit, when rational expectant treatment has been practiced.

In the limited space at our command, we cannot discuss this interesting subject more thoroughly.

Finally, we desire to call the attention of the profession to the concluding paragraph in Dr. J. Veit's monograph, *Die Eileiterschwangerschaft*, as more in consonance with the present state of our knowledge, than the statements of Wiltshire, Lawson Tait, or Knowlsley Thornton.

"*Therefore, I advise, when the diagnosis of uncomplicated tubal pregnancy is made, the extirpation of the sac; in case of the formation of an hæmatocele, as in the death of the fœtus, rest and the expectant plan of treatment; in case of rupture of the cyst into the abdominal cavity, the compression of the abdominal aorta, etc., and only under the most extreme conditions to resort to direct arrest of hæmorrhage by laparotomy.*"

SOCIETY PROCEEDINGS.

TRANSACTIONS OF THE CHICAGO GYNECOLOGICAL SOCIETY.

Stated Meeting, Friday Evening, 19th April, 1885.

I.—FENGER. Chronic Peri-uterine Abscess, with the Demonstration of a Specimen.

II.—JAGGARD. Remarks upon a Teratom, with Exhibition of a Specimen.

The meeting was called to order by the President, Dr. H. P. MERRIMAN.

Professor CHRISTIAN FENGER narrated the following histories of three cases of chronic peri-uterine abscess:

CASE No. I. The patient, thirty-eight years old, married for a number of years, entered the Cook County Hospital one and one half years before the operation, with an attack of acute parametritis; pain and fever continued for five or six weeks, until the abscess burst into the rectum, and temporary relief was experienced. Pus, with periodic exacerbations of pain and fever, was discharged at intervals through the rectum until towards the end of the second year, when she entered the hospital for the second time.

Status præsens.—Temperature, morning, 101.2° F., evening, 103.5° F.; pulse, morning, 102, evening, 130. She is not emaciated, but there is œdema around the eye-lids.

On examination, a tumor, composed of plastic exudate, was found to the left and behind the uterus, pus was discharged with the fæces every two or three days; the communication

between the rectum and abscess, surrounded by granulations, was found about three inches above the anal orifice. A tumor, extending three inches in every direction and reaching within one and one-half inches of the umbilicus, was found above the symphysis.

URINE; acid reaction, contains albumen and casts.

At no place in the vagina, could any prominence of the tumor be felt.

OPERATION; LAPAROTOMY. An incision in the median line revealed a red tumor, extending three inches in every direction. It was impossible to distinguish, by vision, between uterus and abscess. An aspirator needle was inserted into the supposed abscess, and two or three ounces of fœtid pus were removed. An incision was made with a knife through the uppermost portion of the abscess, the walls scraped, a drainage tube brought out through the vagina, and the sac united to the abdominal incision by two rows of sutures.

On the third day the temperature was 103° F., and blood oozed through the abdominal incision. The wound was opened and two or three ounces of bloody serum were removed from the right iliac fossa, and the drainage tube was shortened. Twelve days afterwards the temperature became subnormal and the woman died in wild delirium.

AUTOPSY; Peritoneal cavity healthy; drainage tube, one inch long, in the bottom of the sac, which did not communicate with the general peritoneal cavity. The spleen was slightly enlarged, and had undergone amyloid degeneration,—typical sago spleen. The kidneys normal in size, and of normal macroscopical appearance, showed evidence of amyloid change in the glomerules, upon application of the iodine test. When examined with the microscope, amyloid degeneration was perfectly plain. The cause of death was uræmia. The abscess

was located in the uterine half of the left broad ligament, and the left ovary was missing. On the right side, the Fallopian tube was found embedded in a mass of connective tissue and the remains of an old hæmatocele. The Fallopian tube on the right side permits the entrance of a probe into the abscess cavity.

The operation was performed in the autumn of 1884.

CASE No. II. was one of acute parametritis, which occurred nine months prior to operation.

The abscess, situated high up behind the uterus, discharged into the rectum at periodic intervals; exacerbations of pain and fever were constant; progressive loss of weight and strength.

The tumor could be felt through the abdominal parietes, between the symphysis and umbilicus, presenting some of the appearances of the gravid uterus.

OPERATION; LAPAROTOMY. Upon incision through the median line, the same red tumor appeared. One ounce of pus was evacuated, and then it was noted that the interior of the sac was covered with a peculiar, cauliflower growth. The color was gray-white, not yellow. On this account, it was thought to be sarcoma.

This cauliflower growth was scraped out, and microscopical examination showed that it was tubercle (miliary) and not sarcoma. The cavity of the abscess was washed out, drainage effected through the vagina and the sac united to abdominal incision as in CASE No. I.

Within two weeks the tumor entirely disappeared, but a fistulous tract through the abdominal incision remained. This fistulous tract ultimately healed.

The tuberculous mass was entirely removed by scraping and subsequent washing out with potassium hydrate. One

year later, the patient died. She had obstinate diarrhoea, and intestinal pain. The presumption is that she died from tuberculous ulceration of the intestine.

Sections of the cauliflower growth, exhibiting giant cells and other morphological constituents peculiar to tubercle, were demonstrated to the Fellows.

CASE No. III. was one of acute parametritis, which occurred four months before operation. The abscess opened into the rectum, as in the two former cases.

OPERATION; LAPAROTOMY. The abscess contained one pint of pus. The abscess cavity was treated as in the two former cases, with the exception that drainage was effected through the abdominal incision,

A serous cyst was also emptied. In six weeks, no trace of the abscess could be found, except a fistulous tract through the abdominal incision, which healed in three or four weeks.

REMARKS.—A chronic peri-uterine abscess may be tapped below the symphysis, through the vagina, or above the symphysis. Spontaneous cure, by opening into the bladder, rectum, or vagina, is always imperfect.

These abscesses, in the uterine half of the broad ligament, do not belong to the more common circumscribed collections of pus, pointing near Poupart's ligament.

When the abscess points through the vagina, the indication is clear.

When it does not, dissection through the vagina, along the posterior wall of the uterus, and forcing an opening into the cavity, is subject to the following objections:

I. Danger from hemorrhage. It is difficult to tell where large vessels in the abscess wall may be. The vessels are usually larger than normal. Then it is difficult to place a ligature around a bleeding vessel, as the uterus is fixed.

II. There is great danger of opening the general peritoneal cavity in dissecting up along the posterior uterine wall.

Laparotomy reveals the abscess in all its relations, and it is possible to prevent the access of pus to the abdominal cavity. The operation, devised by Lawson Tait, deserves election.

Schroeder has effected cures in two cases by the *sectio alta*, by dilating the communication between bladder and abscess. The communication between the abscess cavity and the viscus was old.

It is strange that few operators in Europe have practiced Tait's operation. Lawson Tait and a few Englishmen are the only surgeons, who advocate the measure.

Chronic peri-uterine abscesses of the character to which allusion has been made, are of frequent occurrence.

DISCUSSION.

Dr. EDWARD WARREN SAWYER, referred to a case of chronic peri-uterine abscess, seen in consultation with Dr. Charles Gilman Smith, in which enormous quantities of pus were discharged *per urethram.*

A vesico-vaginal fistula was made, and drainage through the *bas-fond* of the bladder into the abscess cavity was attempted The operation was abandoned, as it was found impossible to establish any communication by finger or catheter. In this case, there was an enormous dropsical swelling of the genitalia and leg on the right side, due, as suggested by Professor Fenger, to thrombosis of the iliac vein.

Professor E. C. DUDLEY inquired whether a quantitative examination of the urine for urea might not establish the fact of kidney disease, and consequently a contra-indication to operative procedure.

Professor FENGER replied that he did not know to what extent amyloid change might disappear. In cases of chronic

suppuration, the liver may become enlarged, but it may become reduced in size again.

Albuminuria was only a relative contra-indication to operative procedure.

Professor C. E. DUDLEY related the histories of two cases of chronic peri-uterine abscess.

CASE No. I. was that of an abscess of the left broad ligament which opened into the vagina. The opening was dilated, and a double drainage tube inserted. The case was seen by Professer Fenger. The woman did well for a time, but after many ups and downs, died at the end of the year.

AUTOPSY. All the pus in the pelvic cavity was found well drained, but one small cavity, which contained about three ounces of horribly fetid pus, was found above the symphisis attached to the anterior abdominal wall. Lawson Tait's operation would, in all probability, have saved her life.

CASE No. II. occurred in Mercy Hospital and presented many points in common with Professor Fenger's first case. Large quantities of pus were discharged *per rectum*. He urged Tait's operation.

The patient refused, and left the hospital in disgust, but returned within three months in blooming health, and showed no traces of the abscess. Tait's operation might have resulted fatally.

Professor W. W. JAGGARD raised the question as to the distinction between Tait's and Volkmann's operations. Dr. Franklin H. Martin had reported a case of pelvic abscess, treated by Volkmann's method, to the CHICAGO MEDICAL SOCIETY, during the past year. It did not differ essentially from the method pursued by Professor Fenger. He merely desired to suggest the subject of correct nomenclature

PROFESSORS FENGER and DUDLEY thought that Dr. Martin's case was one of Tait's operation.

Professor W. H. BYFORD said that in all cases in which there is a tortuous communication between rectum, vagina, or bladder, there is an intermittent discharge of pus. Uniocular abscesses were the rule; multilocular abscesses, of the nature of Professor Dudley's CASE, No. I., were the exception.

Unilocular abscesses, as in Professor Dudley's CASE No. II., have a tendency to spontaneous recovery. Professor Byford had demonstrated that these cases recover by granulation. The fungoid granulations spring up, and close in the abscess cavity. In other cases, the interior of the sac is glazed over with cicatricial tissue, serum fills up the cavity, and serous tumors are produced, which may disappear, but usually persist.

In extreme cases of chronic peri-uterine abscess, the question of operative procedure comes up.

Professor Byford was opposed to the line of treatment suggested by Professor Fenger. The *sphincter ani* should be dilated, or incised; the communication between abscess cavity and rectum dilated by fingers, steel dilator or knife, the cavity of the abscess scraped or washed out, and drainage effected *per rectum*.

Complete evacuation of pus, and sac-contents, could be effected in this manner without invasion of the general peritoneal cavity.

When the communication through the bladder was also established, he would treat the cases in the same way, or dilate the urethra, and proceed in the manner indicated.

After simple evacuation of purulent contents, abscess cavities do not always collapse. They may remain patulous. Their walls are frequently of great thickness and cartilaginous hardness.

It is usually necessary to scrape the cavity and establish a new action in the pyogenic membrane.

Schroeder's operation of dissecting up from below, through the vagina, along the posterior uterine wall, was justly considered dangerous.

Professor Byford had, on two or three occasions passed a sound into the rectum, cut down on the instrument, and kept the tract patulous by tents.

Professor CHRISTIAN FENGER closed the discussion by saying that he thought Professor Byford's suggestion as to drainage through the rectum impracticable when the opening was high up. It was always dangerous on account of the proximity of the general peritoneal cavity.

Professor E. C. DUDLEY asked "Does the tube remain *in situ* when the bowels are moved?"

Professor BYFORD replied, "Yes."

II. Professor W. W. JAGGARD made the following remarks upon a teratom, with presentation of the specimen.

The teratom, or *portentum*, to which he desired to call attention, was sent for examination by Dr. J. L. Brenton and Dr. A. C. Helm, of Beloit, Wis.

He had not received any history of the case, and therefore merely called attention to the macroscopical characters of the object, reserving for a future occasion the discussion of the results of dissection.

The head presents a typical example of hemicephalus, or anencephalus, referable to Rokitansky's class A, deformities resulting from insufficient development.

Such fœtuses are often notable on account of remarkable development; the quantity of *liquor amnii* is usually large. They may assume longtitudinal or transverse presentations. When the vertex presents, the diagnosis is frequently of a very puzzling character.

CAZEAUX suggests as a valuable sign, under such circum-

stances, the convulsive movements of the child in the uterus, as the result of the direct irritation of the basal ganglia.

By this means, CAZEAUX and DUBOIS have been enabled to make a diagnosis before rupture of the membranes.

Version is usually indicated in these cases, if the presentation is that of vertex, not engaged.

The second object of interest, in connection with the teratom, is the large tumor of the ano-perineal region. Rokitansky refers these cases to class B, teratoms, as the result of pathological excess of development.

Tumors of the ano-perineal region are divided by Braune into the following classes:

(1) Tumors, after the exclusion of fœtation by inclusion, the connection of which with the special canal has been demonstrated.

(2) Degeneration of the gland of Luschka.

(3) Sacral Hygroma.

(4) Coccygeal tumors, fibromata, cysto-fibromata, cysto-carcinomata.

(5) Hydrorachis.

(6) Lipomata.

(7) Tumors, observed in adults, the congenital nature of which is not absolutely proven.

W. W. JAGGARD, M. D., Editor.

2330 Indiana Ave., 21st April, 1885.

THIRTY-FIFTH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY, SPRINGFIELD, ILL., MAY 19TH, 20TH AND 21ST, 1885.

First Day—Tuesday, May 19th.

MORNING SESSION.

The Society was called to order at 10 A. M., by the President, Dr. D. S. BOOTH, of Sparta. After prayer by Rev. F. H. MUSGROVE, of Springfield, the address of welcome was delivered by his Excellency, GENERAL RICHARD J. OGLESBY, GOVERNOR OF THE STATE OF ILLINOIS. Governor Oglesby's remarks were brief and felicitous.

He desired to welcome the members of the Illinois State Medical Society to the Capital, as gentlemen, citizens and physicians. He congratulated the people of the State, that so many representative medical men could be found willing to leave their homes, with absolute unselfishness, to consult together for the public good. To the physicians, more than to any other body of men, is entrusted the health, prosperity and life of the people. The fact of this annual convention, attended by so many medical men, who had at considerable sacrifice forsaken their daily avocations, was self-evident proof of their devotion to the profession of medicine and surgery and to the trust reposed in them.

He recognized in the science of medicine and surgery a field of infinite possibility as regards development. It was the function of these annual meetings to lift the subject above illiberal and envious criticism, and establish it upon a more enduring basis than that of empiricism. It was true that the science of medicine and surgery was not as exact as geometry,—a necessary consequence of the complex character of the phenomena. It was, however, absolutely the only guardian standing between men and the effects of disease and accident.

There were dubious matters in every department of human activity, but in medicine and surgery that doubt assumed enormous importance, as human life was the issue. Uncertainty in diagnosis and treatment,—and every physician must at times be puzzled,—only increased the dignity of the profession, since the mental agony experienced by an honest, conscientious man under these conditions was greater than in any other pursuit. This sense of moral responsibility must be greater in the physician than in the pure scientist, lawyer, or even divine.

Dr. E. P. COOK, of Mendota, replied in appropriate terms to Governor Oglesby's address of welcome.

The President, Dr. D. S. BOOTH, delivered the usual annual address, under the title of

"HASH."

Dr. Booth discussed, in a humorous way, a variety of topics. At the ninth annual convention of the American Academy of Medicine, in Baltimore, 1884, a committee was appointed to memorialize Congress with reference to the establishment of a National Board of Medical Examiners.

Dr. D. S. Booth recommended the appointment of a similar committee from the Illinois State Medical Society, which should memorialize the State Legislature upon the same subject.

Female education, general and medical, was discussed at length. The germ theory of disease, the dangers of specialties, and sanitation received attention.

AFTERNOON SESSION.

Reports of General Committees.

GYNECOLOGY.—David Prince, Jacksonville; Sarah H. Stevenson, Chicago; O. B. Will, Peoria.

Dr. DAVID PRINCE, of Jacksonville, read a report on recent

progress in gynecology, and exhibited a large number of instruments.

In the treatment of pelvic plastic exudates and uterine hyperplasia, he recommended, in addition to hot water, vaginal irrigation,—insisted on especially by Dr. Emmet,—the employment of the interrupted current.

OBSTETRICS.—C. W. Earle, Chicago; T. D. Washburn, Hillsboro; Anna S. Adams, Peoria.

Professor CHARLES WARRINGTON EARLE, of Chicago, read an interesting and valuable report on Obstetrics, in which allusion was made to the following topics:

At a meeting of physicians and surgeons in London, some years ago, an eminent member of the profession said, "Thank God! I know nothing of midwifery!" Modern science does not commend the insular arrogance of the remark.

ANATOMY AND PHYSIOLOGY.— Professor W. W. Jaggard, of Chicago, read a paper before the Obstetrical Section of the American Medical Association at its last annual meeting, in which recent progress upon the condition of the cervix during pregnancy and labour was sketched.

A gradual reversion to the views of the older obstetricians, Roederer and his pupil, Stein, Sr., had occurred within the past fifteen years. It was probable from the researches of Carl Braun (1857), Wilhelm Braune, Ludwig Bandl, Kuestner and Lahs, that during the latter months of pregnancy the supravaginal portion of the cervix is drawn up so as to form part of the general uterine cavity. While it is impossible to assert dogmatically that the contraction ring of Schroeder, the obstetrical internal os of Spiegelberg, the pelvic inlet stricture of Lahs, the ring of Bandl, the clinical or mechanical os of Ebell, are identical with the anatomical internal os, the weight of probable evidence is in favor of such a view.

THERAPEUTICS.— Professor Earle referred to the oxytocic properties of *Cimicifuga Racemosa*. (See CHICAGO MEDICAL JOURNAL AND EXAMINER, April, 1885, "*The Influence of Cimicifuga Racemosa on Parturition*," by Professor J. Suydam Knox); the external use of chloroform in labour; use of muriate of cocoaine in cases of rigid os, and perineum.

The value of electricity in the vomiting of pregnancy, post-partum hemorrhage, induction of premature labour, weak pains, was discussed at length, and the views of Dr Bater, of Texas, cited.

The bichloride of mercury had replaced carbolic acid among antiseptics, although there were cases of mercurial poisoning reported.

PATHOLOGY.— Since the time of Dr. C. W. Lever (1843), the association of albuminuria with puerperal eclampsia had been observed. Dr. Fry, of Washington, had recently discussed the pathology of the condition, and it was probable that eclampsia is not always due to uræmia. In addition to the other remedies, commonly employed, Professor Earle suggested *apocynum cannabinum.*

PRACTICE OF OBSTETRICS.—Occipito-posterior positions were more frequent than the older English text-books would lead one to believe. Leishman, in particular, was in error upon this subject.

Dr. Edward Warren Sawyer, of Chicago, had read a paper upon this topic before the American Gynecological Society, last October. Of Dr. Sawyer's forty-two cases, thirty-nine were right occipito-posterior, three left occipito-posterior; as to occurrence, one out of every five vertex presentations assumed this position.

Professor Earle recommended the manœuvre of Schatz, in the transformation of *face* into *vertex* presentations.

The old doctrine of the application of forceps in *breech* presentations had been revived. Professor Earle sanctioned the use of the instrument, under such conditions, believing it to be less harmful than the blunt hook.

Dr. Henry T. Byford's paper on "The Functions of the Membranes in Labour," (CHICAGO MEDICAL JOURNAL AND EXAMINER, March, 1885), deserved careful consideration. Dr. Byford was convinced of the possibility, probability and utility of preserving the membranes in labour until they dilate or aid in dilating the vulva.

In the immediate repair of a lacerated perineum, Professor Earle recommended the single suture method, suggested by Dr. Alloway, of Montreal.

In the treatment of retained membranes, in abortion, premature labour, or labour at term, there was great difference of opinion. Professor Earle would select a line of treatment which could not be termed meddlesome nor dilatory. He would not allow retention of the membranes to exist when they could be removed. Neither would he invert the uterus to peel off a shred of decidua. It was necessary to distinguish between simple retention of the separated placenta, on account of stricture of the internal os, and the placenta retained as the result of abnormal adhesion.

EXTRA-UTERINE PREGNANCY is of more frequent occurrence than was formerly believed. During the early months of pregnancy, Dr. Thomas's method of destroying the embryo by means of the interrupted current was the most rational mode of treatment.

When the full term of utero-gestation had expired, and the fœtus was living, laparotomy was indicated. When the term of gestation was prolonged, and the fœtus was dead, an expectant course of treatment should be pursued.

DISCUSSION.

Dr. DAVID PRINCE of Jacksonville, recommended the affusion of cold water upon the abdominal surface as the most efficient and least harmful method in the treatment of post-partum hemorrhage. He narrated the history of a case of post-partum hemorrhage, occurring in an eclamptic patient, successfully treated by this method.

Dr. C. TRUESDALE, of Rock Island, always advised the immediate operation for lacerated perineum. He did not recommend the single suture plan, as the surfaces ought to be very accurately approximated.

If this was not accomplished, pockets for the collection of pus and lochia would be formed, and the woman's condition would be more precarious than with the open wound.

Dr. WYNER, of Gilmore, always ruptured the membranes in labour when the cervix was fully dilated.

Dr. WENGER, of Gilman, was of the opinion that the configuration of the head could not be as favorable when the bag of waters was not ruptured. He always ruptured the sac of the amnion when the cervix was fully dilated.

Professor F. E. WAXHAM, of Chicago, had treated successfully over one hundred cases of retained placenta. He had used forceps and curette in but one case, and would not do so again. He removes, with his fingers, everything that can be removed; when decidual shreds remain within the uterine cavity, he irrigates twice daily with large quantities of carbolized water and exhibits ergot.

Dr. KREIDER, of Springfield, exhibited an improvised coil of rubber tubing, mounted on paste-board, to be used for mediate irrigation.

MATERIA MEDICA AND THERAPEUTICS—T. M. McIlvaine Peoria; J. F. Todd, Chicago; Catherine Miller, Lincoln.

Dr. T. M. McIlvaine, of Peoria, read a paper entitled "Medicinal and Non-Medicinal Therapeutics." Dr. McIlvaine disavowed any intention at plaigiarism. Dr. Austin Flint, Sr., had recently read a paper upon the same subject before the New York State Medical Association. Dr. McIlvaine referred to the optimists and pessimists in therapeutics. Between these extremes the body of the profession took its position. Therapeutics was derived from the Greek verb *therapeuo*, which meant to *wait upon* the sick or *alleviate* their sufferings, not to *cure*, or *drug* them. The lives of remedies were usually short, about twelve years. Statistics prove that the relative mortality in severe disease has not been diminished within the past twenty years. He narrated the history of a case of typhoid fever. The man could retain nothing, but demanded beer. The case was a desperate one, and his request was granted, and nine one-half gallons of beer were consumed in seven days, and the patient recovered.

A desperate case of pelvic cellulitis had recently come under his observation. The woman could not retain anything at all. Persistent nausea, vomiting and retching were so distressing symptoms that, in despair, he allowed her to eat sauer kraut. An uninterrupted convalescence began immediately.

The influence of faith in the treatment of disease received attention.

Dr. E. P. Cook, of Mendota, thought therapeutic agencies might be comprehended under three classes:

1. Positive Medication.
2. Rational Therapeutics.
3. Moonshine.

Drugs, with which positive medication could be effected, were few in number, and included the specifics. A rational line of treatment could be carried out with agents whose physio-

logical action was not definitely known. Under this second class were comprehended by far the greatest number of therapeutic agencies. The third class, moonshine agencies, he would respectfully relegate to those transcendental philosophers, the homœopaths.

Professor N. S. DAVIS, of Chicago, thought there were few members of the medical profession who thought they could *cure* all diseases. Great injustice is done to the profession by indulgence in extravaganzas of this character. The statement of Dr. Chambers, that all disease was a retrograde movement, and that the patient must be supported throughout the condition, was an instance in point. Is this true? Exaltation and pathological increased functional activity demand sedatives. Depression and diminished functional activity demand stimulants. The nearer we keep to true representation, to the *truth*, the better for our own dignity, and the welfare of the world at large.

Therapeutics is the crowning glory of our profession. In the comprehension of this subject, a man cannot narrow down his vision to the condition of a single part. Attention had been diverted from the old, reliable methods of clinical observation to the microscopical study of disease. "Put salt on the microbe's tail, if you please, but don't kill the patient in the procedure." It is better for the microbe to kill the patient than for the physician to kill the patient in his hunt after the microbe.

In conclusion, Professor Davis said he only rose to check what he saw every day, namely, *a tendency to extravagance in every direction.*

Dr. T. F. WORRELL, of Bloomington, had grown up under the Anstie dispensation, and had been taught to employ not more than six or seven drugs. He had recently seen a prescription from a prominent physician, constructed on shot-gun princi-

ples, in which emetic, purgative, diaphoretic, diuretic, stomachic, tonic, alterative, and antiseptic properties or functions were combined.

"Is there a receiving agent, or distributing sentinel stationed in the stomach, who guards the ultimate fate of these products of polypharmacy?"

As a heart sedative, in pleurisy and pneumonia, he employed *veratrum viride;* as an emetic, ipecacuanha; as purgatives, rhubarb, calomel, senna, blue mass.

The incorporation of strychnine in a pill for constipation, on the theory that it increased peristalsis, was absurd. Bleeding, an invaluable resource, under certain conditions, had been relegated to the obsolete procedures of medical art.

Professor F. E. WAXHAM, of Chicago, never prescribed a remedy without a perfectly distinct reason for its exhibition.

Dr. E. P. COOK, of Mendota, desired to protest against the statement that polypharmacy was an outgrowth of the modern school of therapeutics.

Dr. A. WETMORE, of Waterloo, desired to enter a plea for *mistura composita.* A prescription, of the kind to which Dr. Worrell alluded, had its paradigm in the food we eat.

OPHTHALMOLOGY AND OTOLOGY.—W. T. Montgomery, Chicago; C. R. Park, Bloomington; Robert Tilley, Chicago.

Professor W. T. MONTGOMERY, of Chicago, read a report on *Ophthalmology* and *Otology*, in which allusion was made to the following topics:

JEQUERITY.—Two years ago, Professor Montgomery had visited De Wecker's eye clinic in Paris and learned the use of jequerity.

Jequerity was to chronic granular conjunctivitis what irridectomy was to glaucoma. In the Illinois Charitable Eye and Ear infirmary, Professor Montgomery had treated about two

hundred and fifty eyes, in all forms of the disease, except the muco-purulent variety with non-vascular cornea.

A three per cent. infusion was the most eligible preparation. As to method, after eversion of the eye-lids, a brush saturated with the infusion, was passed over the surfaces twelve times. Within twenty-four hours, the desired inflammation, a membranous exudate, was produced. The local disturbance, pain and swelling, was usually slight. The constitutional effects were usually trivial, although chill and fever had in some cases followed. The acme of the inflammation was usually reached at the end of the second day. During this period, the eyes could be bathed with cold water and some anodyne. Usually two applications are required to cure a case.

His results with the drug may be tabulated as follows:

10 % cured by one application.
25 % " " two or three applications.
30 % " " three to fifteen applications.
20 % improved by one application.
20 % not improved at all.

In no case could the inflammation be evoked beyond the fourth time. In only two cases could it be produced three times.

It required one to three weeks for recovery.

He had never seen sloughing of the cornea follow the application, although he had seen three cases of dacryocystitis.

He regarded the drug as almost a specific in chronic granular conjunctivitis with vascular cornea, especially in hard granulations with pannus.

It was not a dangerous remedy, when used with the following precautions:

I. Never employ when the cornea is clear.
II. Repeat only at intervals of twenty-four hours.

III. Permit any inflammation to subside before the second application.

The anæsthetic effect of *Cocoaine* was the most remarkable discovery made since that of general anæsthesia.

Since Nov. 1st, 1884, he had employed that remedy in the following operations:

Cataract, two; needle operations, fifteen; iridectomy, five; iridectomy for glaucoma, two; foreign body in anterior chamber, one; tenotomy, thirty; foreign body in cornea, Bowman's operation for pterygium.

He employed a two to four per cent. solution.

The action of the remedy was not perfectly satisfactory in iridectomy for glaucoma, or in the removal of a foreign body from the anterior chamber. In tenotomy of the *recti*, after injection of a few drops of the solution into the cellular tissue, no pain was complained of.

Ten cases of phlyctenular keratitis, with good results had been treated. In twelve cases of iritis, the relief of pain and other symptoms was only partial. One case of episcleritis was cured by conjoined use of iodide of potassium, bichloride of mercury and cocoaine. As the man had a specific history, it was impossible to tell whether or no cocoaine had effected the cure.

Professor Alfred Graefe's operation, entitled, *Evisceratio bulbi*, as a substitution for enucleation, had two advantages, (1) the danger from meningitis was less; (2) the stump is superior. Professor E. L. Holmes, of Chicago, had for years been performing the same operation, which Graefe claims as original.

In 1876, Professor Montgomery himself had operated by Professor Holmes's method.

CHANCRE OF EYE-LID PRODUCED IN AN UNUSUAL WAY.—Professor Montgomery narrated the history of a case of

chancre of the eye-lid produced by the insertion of the tongue under the palpebral conjunctiva, in an effort to remove a foreign body.

DISCUSSION.

Dr. MENDENHALL, of Georgetown, thought hot applications in chronic granular conjunctivitis better than cold ones.

Dr. J. D. SKEER, of Chicago, wished to inquire whether there was any violent reaction after the use of cocoaine. Does the solution deteriorate with time? He had been told that it was impossible to keep the solution longer than three weeks.

Professor SAMUEL J. JONES, of Chicago, thought that in the employment of jequerity, ophthalmologists were running an unnecessary risk. The local disturbance and constitutional reaction were not trivial facts. To get rid of the opacity, ulceration was produced. This ulceration could not always be arrested when desired, and sloughing of the cornea had resulted. At present, this method of treatment is empirical. We have safe remedies, by which the same result can be secured. A time may come when we shall know more of the physiological action of jequerity, and when it will be employed as a safe and valuable remedy. The patient ought not to be subjected to greater risks than the physician, himself, would assume.

De Wecker secured the drug from a South American patient, and rushed into print after a very inadequate experience with the remedy.

The hydrochlorate of cocoaine was useful in the production of a superficial anæsthesia. In two cases of iridectomy, in his own practice, the drug did not annul all pain. Where general anæsthesia was contra-indicated, the drug would prove invaluable. So much had been claimed in favor of the remedy that he feared reaction, which might prevent its being given the credit to which it is justly entitled.

Professor Montgomery, in reply to Dr. Skeer, said that he had observed no change in the action of his cocoaine solution, and it was three months old. In reply to Professor Jones, he thought that in the treatment of his own case, he would use jequerity.

Adjourned.

Second Day—Wednesday, May 20th.

The Society was called to order by the President, Dr. D. S. BOOTH, of Sparta.

Dr. Prewett, Dr. Dickinson, and Dr. Middlecamp, delegates from the Missouri State Medical Society, were introduced.

Dr. JOHN H. RAUCH, Secretary of the State Board of Health, read a report on Medical Legislation. Dr. Rauch called attention to the bills affecting medical interests, now pending in the Senate and House.

Four members of the Senate and eight members of the House were members of the regular profession.

Dr. A. B. STRONG, President of the Demonstrators' Association of Chicago, made a report on the Anatomy bill. The bill had passed its third reading in both Senate and House. It would probably become a law. Three thousand medical men had responded to communications from the Demonstrators' Association. Every one was thoroughly in earnest.

At a later period, he desired to call attention to the law regulating malpractice suits, but thought all energies, for the present, should be concentrated upon the Anatomy bill.

Dr. D. A. SHEFFIELD, member of the House from Jo Daviess Co., stated that bill No. 73, known as the "Anatomical Bill," would probably become a law, but urged every member of the Society to confer with his representatives upon the subject.

Dr. SHUMWAY, Dr. WHITE, Dr. HANNA, Dr. WEIR, Dr. MILAM,

representatives, were in favor of the bill, and hoped to see it become a law in a few days.

Dr. E. P. COOK, of Mendota, was glad to see so much healthful enthusiasm upon these subjects of so great medical interest.

COMMITTEE ON LEGISLATION FOR THE INSANE.—B. M. Griffith, Springfield, Chairman; Walter Hay, Chicago; J. L. White, Bloomington; F. B. Haller, Vandalia; W. A. Haskell, Alton; E. P. Cook, Mendota; Wm. Hill, Bloomington; A. B. Strong, Chicago.

Professor WALTER HAY, of Chicago, reported that the "Campbell Bill" had already passed its third reading, and he thought it would become a law.

Dr. J. M. FOWLER, member of the House from the fifty-first district, thought the prospect for the success of the Campbell bill was excellent.

NECROLOGY.—E. Ingals, Chicago; William Hill, Bloomington; M. F. Bassett, Quincy.

Dr. M. F. BASSETT, of Quincy, reported one death.

Abner Hard, M. D., of Aurora, was born in New York, 1820; when eleven years old he came to Michigan; in 1884 he took up his residence in Missouri; in 1847 he settled in Aurora. He was graduated at the Keokuk Medical College in 1851, and died March 20th, 1885. He was Surgeon to the Eighth Regiment of Illinois Cavalry, served in every battle from Malvern Hill to Gettysburg, and in 1862 was breveted Lieutenant-Colonel. He was President of the Fox River Medical Association. He died in the line of duty, from blood-poisoning, contracted during an operation.

A recess of ten minutes was given for the selection of a Nominating Committee.

The following Special Committees were then called:

LARYNGOLOGY.—E. F. Ingals, Chicago.

Professor E. F. INGALS, of Chicago, read a paper entitled:

"Recurrent Laryngitis in Relation to Obstruction of the Nares, or Chronic Catarrh."

Dr. J. P. MATTHEWS, of Carlinville, read the history of the following case of tracheotomy for laryngeal obstruction, and exhibited the patient.

The patient, twenty-eight years old, had a good antecedent history. In October, 1884, he caught cold and became hoarse. Dr. Matthews attended him in November, when he had a severe attack of scarlet fever, which lasted thirty days. Hoarseness subsided about the thirtieth day. Dyspnœa increased. The laryngoscope revealed thickening of the arytaeno-epiglottidean folds, and stenosis of the larynx. Bloody pus was expectorated and, in the absence of all pulmonary complications, led to the diagnosis of ulcer, immediately below the vocal cords.

On January 6th, 1885, tracheotomy was performed. A large quantity of bloody pus was expectorated, and the diagnosis of ulcer was confirmed. The dyspnœa was relieved at once. Dr. Matthews thinks the tube can now be removed with safety. He referred incidentally to a case of spasmodic asthma, cured by the treatment of a post-nasal catarrh. The ulcer in the first case was due to typhoid fever.

DISCUSSION.

Dr. PREWETT, of St. Louis, had treated certain cases of obstruction of the posterior nares by breaking off a bit of the septum with Adams' forceps.

He had performed tracheotomy for sudden dyspnœa in a case of pneumonia. A fibrinous cast was expelled from the trachea and the patient recovered.

Professor INGALS thought that laryngotomy must be performed in Dr. Matthews' case.

Professor F. E. WAXHAM, of Chicago, referred to the advantage of intubation of the larynx in cases of stenosis.

PEDIATRICS.—A. F. Rooney, Quincy.

In the absence of Dr. A. F. Rooney, chairman of the Committee, Professor A. E. HOADLEY, of Chicago, read a paper entitled, "Too often Feeding as a Cause of Disease in Infants, and a Protest against one Cow's Milk." The paper was discussed by Dr. Henry T. Byford, of Chicago, Dr. Middlecamp, of Kansas City, Professor F. E. Waxham, of Chicago, and Dr. Milam.

DERMATOLOGY.—W. J. Maynard, Chicago.

Owing to the absence of Professor W. J. Maynard, of Chicago, chairman of the Committee, Professor H. J. REYNOLDS, of Chicago, read a paper, entitled "The Treatment of Eczema." The paper appears in another column of the JOURNAL.

TETANUS.—C. Truesdale, Rock Island.

Dr. C. TRUESDALE of Rock Island, read a report on Tetanus. Dr. Truesdale had recently treated two cases of tetanus by the hypodermic injection of a six per cent. solution of carbolic acid into the cellular tissue of the injured part, and the internal exhibition of morphia, calabar bean, chloral and bromide of potassium, pushed to their full physiological action, and administered in succession. Dr. G. G. Craig, Health Commissioner of Rock Island, had treated two cases in the manner suggested by Dr. Truesdale. The four cases recovered.

INSANITY.—R. J. Patterson, Batavia.

Dr. R. J. PATTERSON, of Batavia, read a report on Insanity. There are in the United States about 100,000 insane persons, a little less than one-half of whom are in hospitals, and a little more than one-half in county alms-houses, jails, and in private families. It is believed that the insane are increasing somewhat beyond the proportionate increase in population. In view

of these facts, it is well to renew the inquiry, if more may not be done than has been accomplished through medical influence, in certain directions, toward the prevention of insanity, in cutting off some of its feeders and drying up some of its sources. It is believed that the family physician should be, and is destined to be, more and more consulted in regard to questions in connection with hereditary influences, and although the questions involved are intensely personal, his opinions, as physician and friend, may sometimes prevent or lessen the *propagation* of those degenerate conditions, and the incurable diseases upon which insanity often depends.

Attention was then called to certain cases of insanity that were believed to be most amenable to treatment at home.

ALCOHOL AS A THERAPEUTIC AGENT.— M. F. Bassett, Quincy.

Dr. M. F. BASSETT, of Quincy, in his report upon alcohol as a therapeutic agent, said that its therapeutic use should be restricted to the four conditions of *shock*, *collapse*, *septicæmia* and *snake-bites*. Even when used under these circumstances, it might be replaced by other, quite as efficient agents. The danger of the formation of the alcohol habit was so great that it should outweigh, in many cases, the direct benefit to be gained.

DISCUSSION.

Dr. E. P. COOK, of Mendota, said that while he deprecated the evil results which sometimes follow the administration of stimulants, yet he desired to make a protest against the reading of temperance homilies before a scientific body of physicians.

Dr. T. F. WORRELL, of Bloomington, endorsed every word Dr. Bassett had uttered.

PHYSIOLOGY.—A. Wetmore, Waterloo.

Dr. A. WETMORE, of Waterloo, read a brief report on recent progress in vegetable physiology.

TREATMENT OF EPILEPSY.—D. R. Brower, Chicago.

Professor D. R. BROWER, of Chicago, drew the following conclusions in his report on epilepsy:

I. Surgical procedures offer the most certain methods of cure,—the removal of cicatrices, trepanation, oöphorectomy and ligation of the vertebral arteries, being the most important.

II. The medical treatment should be mainly addressed to building up the general nutrition of the patients,— brucia, strychnia and arsenic being the most valuable therapeutic agents.

III. Depressing agents, such as the bromides, are palliative rather than curative. To be curative they should be pushed to bromism, hoping thereby to so alter the nutrition of the nerve centers as to make the epileptic habit impossible, when they are withdrawn.

ON THE INFLUENCE OF APPRECIABLE METEOROLOGICAL AND TOPOGRAPHICAL CONDITIONS ON THE PREVALENCE OF ACUTE DISEASES.—N. S. Davis, Chairman, Chicago; J. H. Hollister, Chicago; J. F. Todd, Chicago; E. P. Cook, Mendota; G. W. Jones, Danville.

Professor N. S. DAVIS, in his report, said that stations and observers throughout the State had been selected, and instruments of precision distributed. No facts of importance had accumulated as yet, as the work had only been completed within the past year.

On motion, the report was accepted, and the committee continued.

Dr. H. R. GUTHRIE, of Sparta, read a paper on medical education.

The continuation of the paper was referred to the first order of business on Thursday morning.

Third Day—Thursday, May 21st.

MORNING SESSION.

The society was called to order by the President, Dr. D. S. BOOTH, of Sparta.

Dr. Guthrie completed the reading of his paper.

Dr. G. N. KREIDER, of Springfield, read a paper on medical education, in which he complimented the Direction of Cornell University on the excellent preliminary course to the study of medicine.

DISCUSSION.

A lively debate on the papers of Drs. Guthrie and Kreider ensued, in which Dr. Milam, Dr. H. T. Byford, Dr. A. Wetmore, Professor C. W. Earle, Dr. Myers. Dr. Wenger, Dr. Remsburg, Dr. Veatch, Professor F. E. Waxham, took part.

The following General Committees were then called:

PRACTICAL MEDICINE.—Norman Bridge, Chicago; C. H. Norred, Lincoln; J. R. Livingood, Rossville.

Owing to the absence of Professor NORMAN BRIDGE, of Chicago, a brief abstract of his report was read. The following topics were discussed:

1. Intubation of the Larynx, with exhibition of instruments.
2. Fever viewed as a physiological process.
3. Cholera,—prophylaxis.
4. Trypsin as a solvent of croupous or diphtheritic exudate.
5. Treatment of Typhoid Fever.
6. Inhalation of defibrinated blood.
7. Hypodermatic injection of human blood.

Dr. C. H. NORRED, of Lincoln, read a supplementary report on the Practice of Medicine, embodying a stenographic report of the evidence in the Burns-Carpenter case.

Dr. Norred claimed that experts can determine, by post-mortem signs, the probable time of death. Temperature of the cadaver is not so important a sign as *rigor mortis*.

SURGERY.—W. A. Byrd, Quincy; D. A. K. Steele, Chicago; Cass Chenowith, Decatur.

Dr. W. A. Byrd, of Quincy, read a report on Surgery. After referring to recent contributions to surgical literature during the past year, he called attention to a new tourniquet, applicable in cases of hip-joint amputation. He narrated the histories of two cases, in which the tourniquet was employed with a minimal loss of blood.

The Society adjourned at 12:30 P. M.

Report of the Nominating Committee.

President.—W. A. Byrd, of Quincy.

First Vice-President.—W. T. Kirk, of Atlanta.

Second Vice-President.—A. Wetmore, of Waterloo.

Permanent Secretary.—S. J. Jones, of Chicago.

Treasurer.—Walter Hay, of Chicago.

Judicial Committee.—E. Ingals, of Chicago; F. B. Haller, Vandalia; W. Hill, Bloomington.

Assistant Secretary.—Hiram Luce, Bloomington.

Members of Committee of Arrangements.—J. L. White, T. F. Worrell, Lee Smith, A. T. Barnes, Wm. Hill, of Bloomington.

GENERAL COMMITTEES.

Practice of Medicine.— M. F. Bassett, Quincy; J. J. M. Angear, Chicago; H. R. Guthrie, Sparta.

Surgery.—C. Truesdale, Rock Island; T. M. McIlvaine, Peoria; M. Reece, Abingdon.

Obstetrics.—W. W. Jaggard, Chicago; Hugo Rothstein, Waterloo; E. A. Ingersoll, Canton.

Gynecology.—J. H. Etheridge, Chicago; M. J. Mergler, Chicago; C. C. Hunt, Dixon.

Drugs and Medicines.—E. B. Montgomery, Quincy; J. M. G. Carter, Waukegan; Katharine Miller, Lincoln.

Ophthalmology and Otology.—Robert Tilley, Chicago; A. C. Carr, Carlinville; W. T. Speaker, Mt. Morris.

Necrology.—E. Ingals, Chicago; Wm. Hill, Bloomington; G. W. Cox, Clayton.

SPECIAL COMMITTEES.

Orthopedic Surgery.—C. E. Webster, Chicago.

Diseases of Children.—F. E. Waxham, Chicago; C. B. Slater, Aurora.

Microscope in Gynecology.—O. B. Will, Peoria.

Dermatology.—H. J. Reynolds, Chicago; W. J. Maynard, Chicago.

Physiology.—A. Wetmore, Waterloo.

Insanity.—A. T. Barnes, Bloomington.

Committee on Legislation for the Insane.—Walter Hay, Chicago; E. P. Cook, Mendota; F. B. Haller, Vandalia.

Medical and Sanitary Legislation.—B. M. Griffith, Springfield; M. W. Seaman, Shipman; J. L. White, Bloomington; W. A. Haskell, Alton; A. B. Strong, Chicago.

Biographical Committee.—J. H. Hollister, Chairman, Chicago; E. P. Cook, Mendota; E. Ingals, Chicago; J. T. Curtis, Otterville; D. E. Foote, Belvidere; George W. Jones, Danville; F. B. Haller, Vandalia; T. F. Worrell, Bloomington; Washington West, Belleville; Robert Boal, Peoria.

On the Influence of Appreciable Meteorological and Topographical Conditions on the Prevalence of Acute Diseases.—N. S.

Davis, Chairman, Chicago; J. H. Hollister, Chicago; J. F. Todd, Chicago; E. P. Cook, Mendota; G. W. Jones, Danville.

Committee on Publication.—J. F. Todd, Chairman, Chicago.

Place of next meeting—Bloomington, Ill.

Day of next meeting—Third Tuesday in May, 1886.

The report of the nominating committee was adopted.

A CRITICISM OF DR. LEEDS'S PAPER ON "THE COMPOSITION AND METHODS OF ANALYSIS OF HUMAN MILK." *By* A. V. MEIGS, M. D., *Physician to the Pennsylvania Hospital and to the Children's Hospital.*

[Read May 6, 1885.]

College of Physicians of Philadelphia, stated meeting held May 6, 1885, the President, Dr. J. M. DaCosta, in the chair.

Denial and reiteration prove nothing. I shall, therefore, endeavor to restrain myself from the use of either of them in my effort to compass my present purpose, which is to persuade the profession of the truth of what I advanced in regard to the composition of human milk, in a paper read before the Philadelphia County Medical Society about a year ago.* I brought forward then certain arguments which seemed to me to prove conclusively that human milk contains only about one per cent. of casein. Those arguments it is not necessary for me to repeat, especially as I have nothing new to advance, and I must therefore refer any one to whom the subject is new,

* Proceedings of the Philadelphia County Medical Society, vol. vi., 1883-4.

but who feels an interest in it, to my former paper. At present I wish merely to criticize the results arrived at by Dr. Leeds, and detailed in a paper read before the College.†

In such a criticism I shall not, of course, be restrained by a false delicacy from using all legitimate means to show why we should decline to accept Dr. Leeds's conclusions. The question in dispute is, how much casein human milk contains, and particularly what is its quantity relatively to that contained in cow's milk. Upon the decision of this question must depend the lives of a very large number of infants, for the conclusion at which we arrive as to the relative composition of the two kinds of milk must necessarily decide how we will use cow's milk as a food for young infants.

Dr. Leeds, in his paper, proceeds first to criticise previous methods of analysis and then goes on to describe the method used in obtaining his own results. I shall, therefore, begin by taking up his strictures upon my method of analysis, and then will discuss his own conclusions. In order that his criticism of the method I suggested may be understood, I shall have to give a brief description of my process as originally described. This was first published in the *Philadelphia Medical Times*, July 1, 1882, the paper having been read at the Philadelphia County Medical Society, the previous February.

To carry out the method, 15 c.c. of milk are required. Discharge 5 c.c. of milk from a pipette into a platinum dish and weigh; dry over a water-bath at 100° C. until the weight becomes constant, then incinerate, beginning with moderate heat and finally using the blast flame. This gives the water, total solids, and ash. Discharge 10 c.c. of milk in another dish and weigh, taking care that the weight be exactly double the first

† Transactions of the College of Physicians of Philadelphia, 3d Series, vol. vii., 1884.

amount; pour this into a high narrow 100 c.c. graduated bottle and add 20 c.c. of distilled water, this being used to wash all the milk from the dish. To this add 20 c.c. of ether and tightly stopper the bottle and agitate for five minutes, then add 200 c.c. of alcohol and again agitate for five minutes and let the bottle stand until the fluid separates into two layers. Draw off the upper layer, of ether containing fat, as nearly as can be done without taking any of the lower layer; pour in 5 c.c. of ether to mix with what fat is left, and draw off. Thus 5 c.c. of ether must be poured on and drawn off five times. The ethereal solution being dried over warm, and finally boiling water, gives the amount of fat. There is now left in the bottle the sugar, casein and salts; this must be washed into a dish (best platinum) and dried over the water-bath. The residue is treated with boiling water and then allowed to stand; the casein sinks to the bottom and the sugar remains in solution. The clear solution is poured off and the residue again dried and treated with boiling water, and what is thus obtained added to that already had. This must be repeated until it is found that when boiling water is poured upon the dried sugar, complete solution takes place, no flocculi being seen in it. The casein residue is then, after being thoroughly dried, treated once or twice with boiling water to wash out any sugar that may have been left in it, care being taken that no casein is poured off. This sugar is added to that previously obtained, and the two residues are dried and incinerated, the loss in burning giving the weights of the casein and sugar respectively.

In Dr. Leeds's criticism of my method he finds fault, first, with the use of a pipette in measuring out the portions of milk to be used in analysis, saying that "the milk leaves minute particles upon its walls, and the alteration in composition thus produced is the greater, the more extensive the wetted surfaces

of the measuring vessel." This objection, although theoretically correct, is trivial, and the possible error introduced is not nearly so great as that likely to result from his own method of pouring out at a guess 5 c.c. of fluid, and thus have to weigh several times before getting sufficiently near the desired quantity to be able to proceed with the analysis. This is particularly the case where the 10 c.c. for the second portion of the analysis comes to be weighed, for it must weigh exactly twice that first used to make the analysis at all accurate. He says in speaking of the first portion of my method, by which are obtained the water, total solids, and ash—"evaporation to dryness in a water-bath to constant weight, is tedious, usually requiring three hours, and is neither so accurate nor expeditious as the method of coagulation with alcohol," and then after giving a comparison of the results obtained by trial of the two methods says—"in other words, at the expiration of seven hours, I had obtained the same constant weight as I had found by the method of coagulation at the expiration of one and one-half hours." Now he comes to this erroneous conclusion because he makes a mistake in his arithmetic with regard to the results obtained by his experimental trial. The actual fact is, that the addition of alcohol is an improvement in that portion of the analysis, although it expedites the last portion of the drying only very slightly, and does not prevent the formation of a skin upon the surface, as Dr. Leeds states. His mistake is as follows: He says, "to 5.1195 grms. milk added 3 c.c. alcohol, evaporated to dryness on water-bath * * * and then to constant weight in air-bath at 105°. Loss of weight 0.699 grm. or 13.56 per cent." This last sentence contains two mistakes, it should have been—total solids 0.699 grm. or 13.65 per cent. This mistake in the percentage of the total solids is evidently not a mere typographical error, for upon it is based

his conclusion that the addition of alcohol so very much expedites the drying. He then proceeds to take a second sample and dry it without the addition of alcohol; he drives off moisture until the total solids left, amounted at the end of seven hours to 13.5 per cent. If he had dried the first sample with which he tested his own method to the same degree as he did the latter, he would have found that it took very little less time, for it is in driving of the last portions of moisture that the process is tedious. The sample dried by his own method was not then, as the figures when corrected show, brought to constant weight, but still contained some moisture, and thus his mistaken conclusion that the addition of alcohol so much expedites the process.

With regard to the extraction of fat, Dr. Leeds says, "When water is present, ether will extract not only fat but substances soluble in water. This was probably the case in the present instance, and experiment confirmed the conjecture. After distilling off the impure ether, drying the fat to constant weight at 105° and weighing, the fat thus obtained was redissolved in absolute ether. In every trial a residue was left behind. This residue dissolved readily in water. It proved to be milk-sugar." I have often tried redissolving the fat residues in absolute ether, and never had any difficulty in causing it all to pass into solution, except in the instances I mentioned in my previous paper, when a white substance was precipitated from the ethereal solutions of fat from human milk. This substance when separated could not be redissolved in ether as I mentioned, and for the moment I thought it must be casein or sugar, but when I found that it melted and looked like any other hot grease the moment it was warmed, I concluded it must be some form of fat for whose reactions and appearance I could not account, nor can I now. The reason Dr. Leeds found milk-sugar with

the fat when extracted by my method, must have been that he was careless in pipetting off the ethereal solution of fat, and drew off also some of the water containing milk-sugar, an accident which can only be avoided by observing the greatest care in that portion of the process.

There is little that need be said with regard to the objections brought forward to my method of separating the casein and sugar. Dr. Leeds says casein (albuminoids) is "partly soluble in boiling water." If this is true, my whole method must fall to the ground, but in my paper I stated my conviction, that if casein be once thoroughly hard dried, it entirely ceases to be soluble in water, and this is very easily tested by drying some casein and then trying to redissolve it.

It now becomes necessary to speak of the method of analysis advocated by Dr. Leeds, and of his detail of the work he has done. The method he follows is the Gerber-Ritthausen's, and he says of it, "that it is the only method known at the present time which is precise and rigidly accurate."

This method is described in full in a book entitled *Chemical and Physical Analysis of Milk, Condensed Milk, Infants' Food, etc.*, by Dr. Nicholas Gerber, translated by Dr. Hermann Endemann, New York, 1882. The method, as described by Dr. Leeds, is as follows:

"*Totals Solids.*—Weigh off 5 grms. of milk in a tared covered platinum capsule. Coagulate with absolute alcohol (about 3 c.c. are used), and evaporate to dryness on water-bath. Transfer to drying-oven, and keep at 105° C. until constant weight is attained.

"*Ash.*—Ignite the residue first over a small flame, and finally at a dull-red heat. Cover the dish, cool in the desiccator and weigh.

"*Albuminoids.*—Dissolve 63.5 grms. pure sulphate of copper

in a litre of water. Prepare also a potash solution containing 50 grms. caustic potash in 1 litre. Weigh out 10 grms. of milk in a covered beaker glass, and dilute with 100 c.c. water. Add 2.5 to 3 c.c. of the copper solution. Then run in sufficient potash to neutralize exactly the excess of sulphate, which will require about 1.25 to 1.5 c.c. of the potash. The coagulated albuminoids settle immediately, leaving the liquid clear. In testing the reaction, the stirring-rod, which has been washed and withdrawn from the solution as soon as the potash has been stirred in, is dipped into the clear supernatant liquid. A drop of this liquid should turn neutral test-paper neither blue nor red. Care should be exercised not to allow the stirring-rod to bring up particles of the coagulum, since these interfere with the reaction. The clear liquid is then decanted through a filter-paper, previously dried at 110°, and weighed in a weighing flask. The precipitate is then stirred up with 100 c.c. water, allowed to settle, the supernatant liquid again decanted through the filter, and, finally, the precipitate is washed upon it. The beaker is thoroughly cleansed with a rubber washer; and all these filtrates, amounting to about 240 c.c., are finally made up to exactly 250 c.c. for the determination of milk-sugar.

"The filter-paper containing the precipitate is then opened out upon a large watch-glass, and, after drying to a certain point, is divided up into small particles by a platinum spatula, and this comminution is repeated from time to time, until finally the whole mass becomes a fine powder.

"*Fat*—The filter-paper containing the precipitate is gathered up and placed loosely in a proper funnel. The beaker-glass used for the precipitation is washed out with ether to dissolve any traces of fat adhering to it, and these ethereal washings are poured through the funnel and allowed to run into a small weighed flask, with which the funnel is connected by a ground-

glass joint. The funnel is then connected with a return-cooler, the flask carefully heated by a water-bath, and the filter paper is made to swim in the ether condensed in the funnel for about an hour, when the extraction of fat will be complete. The ether is distilled off, the flask dried at a temperature of 105°, cooled in a desiccator, and weighed. Its increment in weight gives the amount of fat.

"*Albuminoids.*—The residue in the filter is dried at 110°, and weighed in the weighing flask until constant weight is attained. It is then ignited in a platinum crucible, and the weight of ash deducted. The loss of weight is the amount of albuminoids.

"*Milk Sugar.*—This is determined in the filtrate by Fehling's solution. The figures thus obtained are identical with those found by evaporation of the filtrate to dryness, igniting, and substracting ash."

The first and most important objection to this process is that there are added to the milk to be analyzed fixed substances, which are believed to form new compounds with some of its constituents. Thus, Dr. Leeds tells us, that an albuminate of copper is formed and precipitated. In his criticism of Haidlen's method he adds a foot-note, saying: "The addition of gypsum, marble, glass, sand, etc., is unnecessary, and a source of error." Why is not the addition of potash and sulphate of copper a much greater source of error? The first mentioned substances are comparatively inert, and little disposed to form new combinations, while the latter are among the most active in the strength of their chemical affinities. No method of analysis can be accepted as conclusively accurate which depends upon the introduction of a reagent which forms a new compound which is insusceptible of being again separated into its original parts, to show how much of each is present when the

analysis is completed. How is it possible to know that the incineration of any given weight of albuminate of copper, formed from human milk, which has been dried at 100° or 105°, will inform us how much casein was originally needed to make up the compound, when it is remembered that casein itself is a substance about which we still know so little that it is not yet positively certain whether it is simple or compound?

Dr. Leeds's reagents for precipitating the albuminoids are almost exactly those used to make the Fehling's copper-test. Why, therefore, is it not likely that some of the sugar is precipitated or altered by them, as would surely happen if the fluid was heated, thereby preventing its reacting to the Fehling's solution, with which, as I understand it, Dr. Leeds made his test of the purity of his supposed casein residue. Dr. Leeds himself suggests another objection, "that, in the precipitation of the albuminoids by Ritthausen's solution, hydrated basic sulphate of copper is precipitated." But, he says, this objection does not hold good, as he has "failed to detect it in the presence of more than traces of hydrated basic sulphate." For my own part, I made the experiment of mixing the reagents, as directed, in water simply, without the presence of milk. So soon as the copper and potash solutions were brought together, a precipitation of course took place. This precipitated I collected and dried at 100°, and then exposed to the heat of a gas flame. The difference between the weight of the precipitate dried in a water-bath at 100°, until it ceased to lose weight, and after it had been exposed to the heat of a flame, was (the same bulks of the reagents being used as directed for analysis) 0.038 gramme. This makes, if the same thing occurs when the method is used for analytic purposes, the casein too great in quantity by about 0.35 per cent., which is nearly the difference between Dr. Leeds's conclusion and my own as to the

quantity of casein in human milk. Although the conditions are different, when the reagents alone are used, from those where they are used in analysis, and it cannot be argued that there must necessarily be a too high rating of the casein from this cause, yet, on the other hand, it can be by no means proved that such an error does not result; and, of the two possibilities, the latter seems much the more probable. This matter alone, even if there was no other objection to the process advocated by Dr. Leeds, is sufficient reason for declaring the method absolutely unreliable in the present state of knowledge of the subject.

I made experimental trials of the Gerber-Ritthausen's method, which Dr. Leeds declares to be the only accurate one known. The details of these trials it is hardly necessary to describe here; the result was, that the Gerber-Ritthausen's method rated the fat and milk-sugar a trifle lower, and the casein higher, than my own method did when applied to the same milk. The ash and water came out the same by both processes. With regard to the ash I found that it made no difference whether the incineration was done with an ordinary flame or with the blast, or whether in a closed or open vessel. If the burning was thoroughly done with the ordinary flame, the application afterwards of the blast did not drive off anything more; nor was there any difference in the weight of the residue, whether the vessel was open or covered. With regard to the fact that Dr. Leeds's process gave a slightly less amount of at than did my own, although the difference was so slight as to be hardly worth mentioning, it struck me that, perhaps, the potash which is used may react to a slight degree upon some of the fat, and carry it down into some new form with the casein, which is acted upon by the copper. This is only a further reason for declining to accept conclusions deduced from a pro-

cess which is open to so many sources of error, no one of which can be really proved to be inoperative.

The next matter I have to take up in connection with the work Dr. Leeds has done in milk analysis, is one which I approach with a good deal of hesitation, nor would I mention it at all in a spirit of fault-finding criticism, but only because it is necessary to have an exact appreciation of the correctness of his work, in order that a just estimate of its value may be attained. The table which he gives and which embodies the results of his analyses of eighty samples of human milk, has in it more errors than should exist when deductions are drawn intended to convince scientific men of the correctness of an estimate of the composition of human milk which, to the present time certainly, has not received anything like universal, or even general acceptance. I have carefully gone over this table and find that in seven out of his sixty-four separate analyses, the figures in the column headed "total solids by addition of constituents" are incorrect. The errors are all small except in analysis No. 32, but in it the error is quite a large one. The errors in Nos. 24, 32, 46, 50, 54, 56–59, and 75–80 (marked, "anæmic six cases"), Dr. Leeds gives at the the end of his table in parallel columns the maximum, minimum, and average of each of the different constituents. In the average column the figures given are all incorrect. It is not easy to say exactly how these averages were arrived at, for Dr. Leeds (page 243 loc. cit.) says that in estimating the "maximum difference" he omitted "Laboratory No. 1063" as being affected by some accidental error, and used sixty-two separate analyses, which would seem to leave out also the last two analyses, which are marked respectively, "robust six cases" and "anæmic six cases." My table shows in parallel columns Dr. Leeds estimate of the average and corrected figures deduced in different ways.

	Leeds's Average.	Average obtained by including all the analyses. Estimating Nos. 56 59 and 60 as 4 each, and the last two (Nos. 69 80) as 12. Dividing all the sums, except ash and total solids directly by evaporation, by 76, and those by 80.	Analysis No. 1063 omitted, otherwise same as previous estimate, but the sums divided by 75 and 79 respectively.	Analysis No. 1063 and the last two omitted, consequently the sums divided by 57 and 61.
I. Specific gravity	1.0313	----	----	----
II. Albuminoids	1.995	1.949	1.910	2.139
III. Sugar	6.936	6.954	6.975	7.738
IV. Fat	4.131	4.127	4.137	4.637
V. Solids not fat	9.137	----	----	----
VI. Ash	0.201	0.218	0.219	0.237
VII. Total solids (by addition of constituents)	13.268	13.253	13.245	14.750
VIII. Total Solids (directly by evaporation)	13.267	13.237	13.235	14.637
IX. Difference between VII and VIII	0.001	0.016	0.010	0.113
X. Water	86.732	----	----	----

Dr. Leeds says: "Thus, it will be seen from the accompanying table, giving the results of sixty-two separate analyses of human milk (excluding Laboratory No. 1063, as being manifestly affected by some accidental error), the maximum difference is 0.21 per cent.

"The average error, as determined by ordinary arithmetical methods, is 0.001 per cent."

A glance at the table shows how far from the actual facts this statement is; for, if the first sixty-two analyses only are considered, and No. 1063 omitted, the error, instead of being 0.001 per cent., is 0.113 per cent., or just one hundred and thirteen times greater than is stated. The errors are all, it is but just to state, small, still the existence of so very many of them must necessarily cast much doubt upon the value of the whole work, especially when it is considered how very easily

many of them could have been avoided, as, for instance, in the matter of the making up of the column "total solids, by addition of constituents," when the sum in addition is so very simple a one.

I may sum up by saying that Dr. Leeds's conclusions must not be accepted, for the following reasons:

First, because he has failed to disprove any of the propositions I put forth in my previous paper, having brought no proof to bear substantiating his assertion, that the Gerber-Ritthausen's is "the only method known at the present time which is precise and rigidly accurate."

Second, that the reasons given for estimating the casein amount low (about 1 per cent.), still hold, in the absence of disproof.

Third, that the process advocated by Dr. Leeds is necessarily unreliable, because there are added extraneous fixed substances which form new compounds with the milk, rendering it impossible to make accurate determinations of the various constituents.

Fourth, because of the numerous and considerable inaccuracies which I have pointed out in the paper.

After the reading of the preceding paper:—

Dr. ALBERT R. LEEDS, said: I shall refer briefly to some of the objections made by Dr. Meigs. The plan taken by Dr. Meigs of critizing the minutiæ of the work is an entirely just one, inasmuch as we propose to arrive at results of as great scientific accuracy as possible.

In regard to the first point that he speaks of. It is a little point to be sure, but he is certainly not correct in stating that it makes no difference whether we draw off milk for analysis with a pipette or pour directly into a dish. Milk is not a homogeneous liquid in the sense that it does not contain min-

ute particles which have the power of attaching themselves to the walls of the vessels, and the constitution of the milk after it has left the pipette is somewhat altered by the leaving behind on the walls of the pipette of some of these minute particles.

2d. In regard to the propriety of measuring a portion as compared with weighing a portion. There can be no doubt in the mind of any chemist as to which is the more correct. The only method which can lay claim to accuracy is that by direct weighing. He speaks as though it were a matter of difficulty to obtain an accurate weight. Such is not the case. When supplied with a beaker, which has its own tare or weight marked on the glass, a little experience enables one to estimate how much is to be poured in to make a definite weight of milk. The beaker is kept covered during weighing to prevent evaporation. When a measured quantity is employed, we cannot arrive at definite results until the specific gravity is ascertained. This method is so unsatisfactory that no chemist thinks of making a determination of milk analysis upon a measured quantity, but always upon a weighed sample. If, in a legal case relating to the adulteration of milk, it were discovered that the chemist had used measures instead of weight, I think that his testimony would be thrown out at once.

3d. As to the amount of time consumed in evaporation. A great many experiments have been made upon the relative thoroughness of drying by means of alcohol and drying without alcohol. The results are identical, provided one does evaporate to a constant weight. As a curious matter bearing on this point, I may say that my results upon the determination of total solids were checked off by other chemists on the State Board of Health, who used other methods of drying. This seems to be a small matter, but inasmuch as the State

law requires that in the State of New Jersey, cow's milk shall contain above 12 per cent. of total solids, the method of drying becomes of great importance. It was found that the results were practically identical, the only difference being that by the addition of alcohol a great deal of economy of time was attained.

4th. In regard to the use of ether as a solvent for the fat in the manner proposed by Dr. Meigs. I fail to see that there can be any justification whatever for its use in this way. Whenever it is necessary to extract fat from an organic body, the universal rule is, that even in a food substance like flour or meal, which contain very little moisture, previous drying of the organic substance should be resorted to before extraction of the fat with ether, because chemists regard the presence of so minute an amount of water as is to be found in food substances, as sufficient to hydrate the ether sufficiently to carry into solution other matters. This is as thoroughly verified as any point in chemistry. I look with perfect astonishment upon a method of fat extraction which proposes to add 10 c.c. of ether to milk containing already as much as 37 per cent. of water to begin with, and then add two or three volumes of water in addition. You get very little ether and an enormous amount of water, and as a result other materials are necessarily extracted. It is not for me to go into what other analyses have been performed. I only speak of the analyses which I have performed myself, and I found that the water had extracted other substances, and I should have thought it very remarkable if it had not done so.

5th. As regards the addition of foreign substances. In the early days of chemistry, at the very beginning of analytical work, it was considered that the bodies themselves should be actually separated by means of crystallization, different solubil-

ities, and so on. These methods are now largely given up as lacking in accuracy. On the contrary, the great point in analytical determination now is to obtain some compound of the body which we desire to isolate, this compound being one of very definite composition, and capable of complete separation from the other substances with which it is associated. The objection has been made to the addition of subtances like copper, and to the addition of substances like sand, glass, gypsum, and so on. The objection to the addition of these latter substances rests on an entirely different ground from that which applies to the addition of copper. When you add any of these latter substances no chemical union takes place, and the residue which is left behind after evaporation is highly hygroscopic. As direct evaporation gives all that is desired, they should not be used.

The addition of copper is resorted to for an entirely different object. It is added because it forms a most insoluble compound with the albuminoids and a compound which is capable of being manipulated, filtered, and washed with thoroughness. You may form an albuminate of zinc, of iron, or of other substances, but none of them, as has been shown by Rithausen, who has made a more extensive study of the albuminoids than any other observer, possesses the facility for manipulating and for thorough washing as the albuminate of copper.

The action of potash on casein could only happen in crude manipulations. In the manipulation of these albuminoids one obtains in the first place, in an acid solution, a precipitate of albuminate of copper; he then adds potash, not to such a point as to act on the albuminate, but to such a point as will just take up the sulphuric acid removed from the copper. It is added to the point of exact neutrality and in the presence of a strong mineral acid like sulphuric. I think that there is not

the slightest danger of the potash dissolving the casein. Unquestionably it would do so if added to excess.

Then as to the albuminate of copper itself, the experiment detailed was of entirely different description. On the addition of caustic soda to the copper solution, a precipitate of hydrate of copper would be obtained, which by boiling alone would give up its water and be converted into the oxide of copper. The experiment is not at all analogous to the changes occurring in the manipulation of albuminate of copper. When the albuminate of copper is obtained, it is washed thoroughly, dried, and then ignited, thus finding the exact weight of the mineral portion. This subtracted from the previous weight gives the weight of the organic constituents. I do not see that anything is lacking to make this mode of determining the albumenoids an accurate method. The presence of the basic sulphate of copper in the precipitated albuminate I have been unable to verify with certainty. The reduction of the copper in Fehling's test is a matter of an entirely different description. This is dependent upon the formation of a sub-oxide of copper. There is no trace of reduced copper when albuminate of copper is precipitated as proposed in the analysis of milk, and hence there can be no reduction of any substance of the nature of milk sugar.

In regard to the small errors in addition, this is a matter of entire news to me. I am much surprised to learn that such is the case, but as to the conclusions being shaken, that I cannot suppose there is the slightest ground for believing on the strength of the evidence afforded to-night. The accumulation of testimony has been wholly adverse to the conclusions obtained by Dr. Meigs. They are unsupported by any other chemists who have worked on this subject. So far as I know, he is the only one who has advocated his view as to the small

percentage of casein which he supposes to be present in woman's milk.

Dr. MEIGS: I merely wish to reply to one thing. The remarks of Dr. Leeds would seem to show that I had taken a measured instead of a weighed quantity. I always weigh the quantity. I use the measure simply to get at the neighborhood of the weight. I use the pipette just as Dr. Leeds uses the beaker glass.

BOOK REVIEWS.

A TEXT-BOOK OF PATHOLOGICAL ANATOMY AND PATHOGENESIS. *By* ERNST ZEIGLER, *Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students by* DONALD MACALISTER, M. A., M. B., *Member of the Royal College of Physicians; Fellow and Medical Lecturer of St. John's College, Cambridge. Part II.—Special Pathological Anatomy. Sections I.—VIII. London:* MACMILLAN & Co. 1884.

This, the second part of Zeigler's Pathology, speaks of special pathological anatomy, divided into eight sections. Section I. is devoted to the consideration of the Blood and Lymph, the various pathological conditions to which they may be subjected is referred to in a general manner in the first chapter. The following chapters then treat in a clear and concise manner of the special pathological alterations, as changes in the chemical composition, changes in the quantity and composition of the blood. Under this head are classified plethora, amæmia, oligocythæmia and other conditions dependent upon the quantitative and qualitative changes in the blood. The other sections which refer to the vascular system, spleen and lymphatic glands, serrus membranes, skin, mucous membranes, alimentary tract, liver and pancreas, are all treated in the same systematic and classic manner.

Special mention should be made of the excellent, truly artistic manner in which the wood-cuts have been executed. They surpass anything of a similar nature found in text-books.

They assist very materially in increasing the value of the work. The book reads as if originally written in the English language. Its general appearance is very good, the paper is of good quality, and the print, with the exception of the notes, is large and distinct. The headings of chapters and paragraphs are printed in large capitals, which enables the reader to find, at a glance, any subject of special interest. B. B.

PRACTICAL PATHOLOGY. A MANUAL FOR STUDENTS AND PRACTITIONERS. *By* G. SIMS WOODHEAD, M. D., F. R. C. P. E., *Demonstrator of Pathology in the University of Edinburgh; Pathologist to the Royal Hospital for Sick Children; late President of the Royal Medical Society, etc., etc. With One Hundred and Thirty-six Colored Plates. Philadelphia:* HENRY C. LEA'S SON & CO. *1884.*

The author of this work has fully realized the deficient manner in which pathology is taught in our schools, the scant opportunity offered students to acquaint themselves with the macroscopic and especially microscopic appearance of healthy and diseased tissues. A thorough understanding of pathological processes can only be obtained by the formulation in the mind of a distinct picture of the changed appearance of the tissues. He who has never viewed through a microscope, or seen a graphic description of a cirrhotic liver, can as little obtain a clear and intelligent conception of such a process as he could of the construction of a chronometer from a verbal description. The author has attempted to substitute for the lack of practical instruction a number of illustrations depicting the most typical changes found in various pathological conditions.

The book also serves as a guide to laboratory work. The

first few chapters, devoted to post mortem examinations and microscopic technology, are tolerably complete and practical. All known staining methods, including the quite recent formulæ for bacteria staining, are mentioned.

The remainder of the book deals with the most common pathological changes of the various tissues of the body. The work is modeled after the plan of Frey's.

We can recommend the work for its clearness of style, brevity and completeness. B. B.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. *By* J. HENRY GREEN, M. D., *Fellow of the Royal College of Physicians, London, etc., etc. The fifth American, from the sixth revised and enlarged English edition, with one hundred and fifty engravings. Philadelphia:* HENRY C. LEA'S SON & CO. 1884.

Henry Green's text book on Pathology is well known to the English-speaking medical public. It has always been the object of the author to represent the present state of our knowledge. To meet this demand, several chapters have been added by Mr. Stanley Boyd, which improve the value of the book. The chapter on "Karyokimsis," forms a fitting introduction to the volume, founded on the dictum of Virchow—*Omnis cellula e cellula.* The chapter on vegetable parasites contains a general *résumé* of the Germ Theory, started by Astur, Schwann and Cagnaird de Latour, and advanced by Pasteur's researches. The physical theory originated by Willis and upheld by Liebig, is discussed in its various bearings. The author concludes that all the processes generally known as fermentation and putrefaction are due to the action of vegetable organisms. The natural history of the vegetable parasites, also the researches of Koch, Klebs, Pasteur, Cohen, Nieser and others, are briefly

mentioned, thus giving the student, in brief, the results of years of scientific labor, accounts of which are scattered throughout our literature. The fact that the work has passed through a fifth edition, may be taken as evidence of its excellency and of its appreciation by the medical world. B. B.

A MANUAL OF ORGANIC MATERIA MEDICA. *By* JOHN M. MAISCH. *Philadelphia:* LEA BROS. & CO. *Chicago:* JANSEN, MCCLURG & CO.

That portion of Materia Medica relating to inorganic substances need necessarily differ so little from the subject of inorganic chemistry, that the student is usually able to grasp it without much difficulty. Here a scientific classification is possible, and the substances having, in general, a fixed and known composition, both teacher and student feel that they are walking on well-defined ground. As much cannot be said of the organic bodies used in medicine. In most cases it is not even possible to refer them to any one of the more or less complex groups now recognized in organic chemistry, as their composition is often quite variable, not always admitting of easy determination. This fact increases very greatly the difficulty which the student must encounter in a study of the subject. A strictly scientific classification being out of the question, writers follow various arbitrary plans. Some have arranged substances in an alphabetical order; others arrange them according to the purposes for which they are used in medicine; but this method, while it possesses advantages for the student, must be characterized as very unscientific, and, at best, only provisional, as it throws bodies together which have merely this in common: that as remedies, they have certain

resemblances. The therapeutics of another generation might suggest an entirely different classification.

The work before us, which appears now in its second edition, and is intended for pharmacists rather than for physicians, follows another system. Organic drugs are divided into three groups, viz., those of animal origin, those of vegetable origin having cellular structure, and those of vegetable origin without cellular structure. Of the animal drugs, six sub-groups are made; of the cellular vegetable, twelve, depending chiefly on botanical features, and of the vegetable drugs without cell structures, six, depending chiefly on chemical properties.

Under each heading the important physical and chemical characteristics are given, and usually fully enough for identification. Many of the articles are furnished with illustrations, adding greatly to the practical value of the work. Its size, about 500 pages, is such that it can be used as a class book in connection with a course of lectures, and for this purpose it is undoubtedly the best manual we have. J. H. L.

DISEASES OF THE NOSE. *By* CLINTON WAGNER, M. D., *Professor of the Diseases of the Nose and Throat in the New York Post-Graduate School, etc., etc. With Illustrations of Instruments and Pathological Conditions. Octavo, pp. 252, New York;* BIRMINGHAM & COMPANY.

Rhinoscopy has now attained the age of a quarter of a century. Its discovery opened up fresh territory in the domain of medicine, some of the fruits of which are exemplified in the many manuals and treatises upon diseases of the nose, which have appeared during the past decade, while the ready sale enjoyed by most of these books, is evidence as well of their merit as of the wide-spread interest in the subject. The present work by Professor Wagner, is deduced from an

extensive experience and well deserves our favorable consideration.

The preliminary chapter upon the anatomy of the Nasal Fossae is illustrated by fair wood-cuts, which save much time and endless annoyance in reference, and the authors of some treatises of greater pretentions might well "take the hint" in the preparation of their future editions.

On page 21, occurs the statement: "This so-called superior turbinated bone protrudes so slightly into the nasal fossa, that it cannot be seen on the living subject, either through the anterior or posterior nares," language certainly inconsistent with a cut upon page 49, of the rhinoscopic image of the posterior nares, in which the superior turbinated bone is figured. This body is frequently perceptible in the rhinoscopic mirror, although it is not always visible.

In view of the frequent assertions, by those unaccomplished in the art, of the impracticability of posterior rhinoscopic examination, it is interesting to learn that the author succeeded, thoroughly, in so examining ninety-six *per cent.* of a continuous run of hospital cases.

Fresh-air maniacs, those who insist upon sleeping during the inclement months, with widely opened windows, should note, that this practice is regarded as a "not unfrequent" exciting cause of chronic nasal catarrh, and we would further add that to our certain knowledge it is a most prolific source, also, of *acute* laryngeal, pharyngeal and nasal inflammations. It is certainly unreasonable to pass the day in, perhaps, superheated apartments and the night, when animal vitality is at lowest ebb, in an atmosphere cold and damp, and in our climate, often of a temperature below zero.

In the treatment of nasal stenoses from deflection of the septum, enchondroma, or osteoma, Professor Wagner advo-

cates the removal of the obstructing parts by rapidly revolving knives and burrs driven by the dental engine. No anæsthetic is requisite as the very rapid revolutions of the burr cause comparatively little pain. The results in the cases which he reports are exceedingly satisfactory,

The danger to life from the removal of naso-pharyngeal fibroma, by the galvano-cautery ecraseur, is stated to be "absolutely none," which recalls to our mind a case witnessed, a few years since, at the *Allgemeines Krankenhaus* in Vienna. A robust young man with a naso-pharnygeal fibroma the size of a walnut; removal *ad secundum artem* with the galvano-cautery écraseur, by Professor Schötter; death within one week from pyæmia; autopsy: suppurative pericarditis and metastatic abscesses. Such a deplorable termination is, however, the rarest of occurrences. The phraseology of the book is clear and concise, the paper and print are very good, and typographical errors are few in number.

W. E. CASSELBERRY.

A HAND-BOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY. *By* FRANCIS DELAFIELD, M. D., AND T. MITCHELL PRODDEN, M. D. WM. WOOD & CO., *New York. pp. xvi.—575.*

This is the second volume of Dr. Delafield's "Hand-Book of Post Mortem Examinations and Morbid Anatomy," and is issued in conjunction with Dr. Prodden.

The work comprises four parts:—

1st. The method of making post mortem examinations, and of preserving diseased tissues and preparing them for microscopical study.

2d. Morbid changes in the circulation of the blood.—Changes in the composition of the blood.—Degenerative changes in the

tissues.—Animal parasites.—Bacteria, their relation to disease and the method of preparing and examining them.—Inflammatory and allied changes in tissues.—A classification and description of tumors.

3d. The macroscopic and microscopic morbid anatomy of organs.

4th. Lesions found in the general diseases, in poisoning and in violent deaths.

The subject matter is systematically arranged and clearly treated, and aside from valuable additions, the book has been improved by revision.

The illustrations greatly enhance the usefulness of the work, and are of the first order of excellence.

The book will be found valuable as a Hand-Book of Diagnosis in Pathological Anatomy.

F. S. J.

INTESTINAL OBSTRUCTION: ITS VARIETIES, WITH THEIR PATHOLOGY, DIAGNOSIS AND TREATMENT. *The Jacksonian Prize Essay of the Royal College of Surgeons of England. 1883. By* FREDERICK TREVES, F. R. C. S. *60 Illustrations.* HENRY C. LEA'S SON & CO., *Philadelphia*; JANSEN, MCCLURG & CO., *Chicago. 120 pp. x.—515.*

The limited space usually assigned to the subject of intestinal obstruction in our systematic works of reference, makes the appearance of this little book especially acceptable to all who appreciate thorough investigation and are willing to forego, in a large measure, theoretical considerations.

The different varieties of intestinal obstruction are classified upon a pathological basis, and are considered under the following heads:

Strangulation by bands, etc., or through apertures.

Volvulus.

Intussusception.

Stricture.

Obstruction by neoplasms.

Compression by tumor, etc., external to the bowel.

Obstruction by gall-stones and foreign bodies.

" " enteroliths.

" " fæcal masses.

The pathology, symptomatology, cause, and prognosis of each is treated in turn.

In the latter chapters on diagnosis the subject is considered from the clinical standpoint under the headings:—

1. The general significance of the leading symptoms.

2. The diagnosis of the different forms of intestinal obstruction.

3. The symptoms as modified by the position of the obstruction.

4. The various affections that have been most frequently confused with cases of obstruction of the bowels.

Lastly: three chapters on treatment, discussing non-operative and operative measures.

Throughout the work, there is constant reference made to illustrative cases either observed by the author or recorded by others; and to the pathological specimens preserved in museums.

Interesting facts and cases, published since the completion of the essay, have been incorporated in the work.

The book appears in the convenient form of the clinical manuals issued by the publishers. F. S. J.

STUDENT'S MANUAL OF HISTOLOGY. *For use of Students, Practitioners and Microscopists. 3rd Edition. Entirely re-written, greatly enlarged and newly illustrated. 78 Engravings. By* CHARLES H. STOWELL, M D., F. R. M. S. *University of Michigan, Ann Arbor, Michigan. Published by the Author. 8vo. pp. 368.*

The introductory chapters—I. and II.—briefly describe the microscope, its principal accessories, and their uses, and such re-agents and methods of preparing animal tissues as the author has found most useful.

The chapters on the microscopic anatomy consist of short descriptions of the tissues and organs of the body. An effort is also made to lay before the reader briefly the results of recent investigations. Closing each chapter is given a section indicating the special methods best adapted to the study of the tissue described.

The last two chapters are devoted respectively to short descriptions of tumors and of the various starches met with as adulterants of commercial articles.

The work will perhaps be found more useful as a manual for the laboratory than as a text-book for the class-room.

We hope that if another edition should be issued, the author will take the opportunity to adopt a more logical and scientific arrangement of subjects, and will omit extraneous matter; in a word, that he will make the book what it should be,—a concise manual of normal histology. F. S. J.

BOOKS RECEIVED.

Modern Therapeutics of the Diseases of Children, by Joseph F. Edwards, M. D. Philadelphia: D. G. Brinton.

Minor Surgical Gynecology, by Paul F. Mundé, M. D. New York: William Wood & Co. Chicago: W. T. Keener.

A Practical Treatise on Nasal Catarrh and Allied Diseases, by Beverly Robinson, A. M., M. D. (Paris). Second Edition. New York: William Wood & Co. Chicago: W. T. Keener.

Handbook of Diseases of the Skin, edited by H. von Ziemssen. New York: William Wood & Co. Chicago: W. T. Keener.

The Oleates: An Investigation into Their Nature and Action, by John V. Shoemaker, A. M., M. D. Philadelphia: H. A. Davis, Attorney.

Injuries of the Spine and Spinal Cord, without Apparent Mechanical Lesion and Nervous Shock, in their Surgical and Medico-Legal Aspects, by Herbert W. Page, M. A., M. C. (Cantab.) Second Edition. Philadelphia: P. Blakiston, Son & Co.

Transactions of the New York State Medical Association, for the year 1884. Vol. I.

The Curability and Treatment of Pulmonary Phthisis, by S. Joccond. Translated by Montague Lubbock. New York: D. Appleton & Co. Chicago: Jansen, McClurg & Co.

Handbook of Physiology, by W. Morrant Baker, F. R. C. S., and Vincent Dormer Harris, M. D. Vol. II. New York: William Wood & Co. Chicago: W. T. Keener.

Clinical Studies on Diseases of the Eye, by Dr. Ferdinand Ritter von Arlt. Translated by Lyman Ware, M. D. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener.

PAMPHLETS RECEIVED.

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Disinfection and Disinfectants. Preliminary Report made by the Committee on Disinfectants of the American Public Health Association.

Dr. Seguins' Metric Prescription Book. G. P. Putnam's Sons.

Insanity and Divorce. The Neuropathic Condition and Treatment of Cancer. Mysomania, by C. H. Hughes, M. D. Abstracted Editorials from the *Alienist and Neurologist*.

A Case of Psycho-Sensory (affective or moral) Insanity, by C. H. Hughes, M. D. Reprint, *Alienist and Neurologist*.

A Lecture on Sterility, by William H. Walthen, M. D.

LOCAL NEWS.

The Fifteenth Annual Commencement Exercises of the Woman's Medical College were held in the Grand Opera House, April 21st.

Degrees were conferred on twenty-two young women by the President, Professor W. H. Byford, M. D., accompanied by an appropriate address.

The Secretary, Professor Marie J. Mergler, distributed the prizes as follows:

The Rosa Engert Prize, for best examination in Medical Microscopy, to Anna Dennis Gloss and Nettie Derexa Morey.

The prize offered by The Woman's Christian Union for the best paper on the Physiological Action of Alcohol, and its Therapeutic Use, to Anne C. Burnet.

The address to the graduating class was delivered by Miss Ada C. Sweet, of Chicago. The subject was "The Age of Humanity."

The Alumnae Association of the College held its annual meeting after the exercises and elected officers and transacted the usual business.

In the evening, a reception was given to the faculty, former teachers, alumnae and graduating class, by Professor and Mrs. Charles Warrington Earle, at their residence.

The members of the executive committee of Presbyterian Hospital have decided to enlarge this new hospital, by building a five-story brick building adjoining the north side of it. It is expected that work on the new building will be begun at once.

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